

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

ULTRAVISION TECHNOLOGIES, LLC,  
Plaintiff,  
VS.  
GOVISION, LLC,  
Defendant.

CASE NO.  
2:18-cv-00100

ULTRAVISION TECHNOLOGIES, LLC

Plaintiff,

VS.

SHENZHEN ABSEN OPTOELECTRONIC  
CO., LTD., et al.,

Defendants.

CASE NO.  
2:18-cv-00112

REPORTER'S RECORD

TRANSCRIPT OF JURY TRIAL

BEFORE THE HONORABLE JAMES RODNEY GILSTRAP

June 7, 2021; 8:30 a.m.

MARSHALL, TEXAS

Proceedings recorded in realtime via machine shorthand.

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I N D E X

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1                   \*\*\*\*\* PROCEEDINGS \*\*\*\*\*

2                   THE COURT: All right. Counsel, is there  
3 anything that needs to be raised with the Court before I  
4 bring in the jury and proceed with the Plaintiff's first  
08:30AM 5 witness?

6                   MR. FABRICANT: Not from Plaintiff, your Honor.

7                   THE COURT: Anything from Defendants?

8                   MR. GILLAM: No, your Honor.

9                   THE COURT: Let's bring in the jury, please.

08:31AM 10                  (Whereupon, the jurors enter the courtroom.)

11                  THE COURT: Good morning, and welcome back,  
12 members of the jury. Please be seated.

13                  As you'll recall, last Thursday we selected the  
14 jury and proceeded with my preliminary instructions and  
08:31AM 15 you heard opening statements from Plaintiff and  
16 defendants. We'll now proceed with the Plaintiff's  
17 case-in-chief.

18                  Mr. Fabricant, Plaintiffs shall call their  
19 first witness at this time.

08:32AM 20                  MR. FABRICANT: Yes, your Honor. The Plaintiff  
21 calls William Hall to the stand.

22                  THE COURT: All right. If you'll come forward,  
23 Mr. Hall, and be sworn. If you'll come around here,  
24 sir, and be sworn, then you can have a seat at the  
08:32AM 25 witness stand.

1 (Whereupon, the witness was duly sworn.)

2 THE COURT: All right. If you'll come around,  
3 sir, and have a seat at the witness stand.

4 Do we have witness binders to distribute?

08:32AM

5 MR. FABRICANT: Yes, your Honor.

6 THE COURT: Please do that.

7 If you'll hand the one for the witness to the  
8 court security officer, please, Counsel.

9 All right. Mr. Fabricant, you may proceed with  
10 direct examination when you're ready.

08:33AM

11 MR. FABRICANT: Thank you, your Honor.

12 WILLIAM HALL,

13 having been first duly sworn, testified as follows:

14 DIRECT EXAMINATION

08:33AM

15 BY MR. FABRICANT:

16 Q. Good morning, Mr. Hall.

17 A. Good morning.

18 Q. Will you please introduce yourself to the jury.

19 A. My name is William Hall. I go by Bill Hall. We've

08:33AM

20 lived here in Dallas for about 25 years. I've been

21 married for 31 years. I've got three children, two

22 daughters that still live in Dallas; a son that goes to

23 Texas A&M and plays football at Texas A&M.

24 Q. Mr. Hall, what is your relationship to the Plaintiff

08:33AM

25 in this case, Ultravision Technologies?

1 A. I'm the owner of Ultravision Technologies.

2 Q. Do you have a title there?

3 A. I'm the CEO of Ultravision Technologies.

4 Q. And where is Ultravision Technologies located today?

08:34AM 5 A. We're in Dallas, Texas. We have an office in

6 Farmers Branch with a manufacturing and assembly, and

7 then we have a sales office in Plano, Texas.

8 Q. And for how long has Ultravision Technologies, the  
9 plaintiff in this case, been located in the Dallas area?

08:34AM 10 A. Since we started the company in 2010. I had a  
11 previous company, Ultravision LED; we had also started  
12 that company in Dallas in 2006.

13 Q. What is your college education, if any?

08:34AM 14 A. I attended USC in Pepperdine, and I attended four  
15 years of classes but did not finish my degree. It was a  
16 business major. I started my first company when I was  
17 in college.

18 Q. Do you have an engineering degree, sir?

19 A. No, sir.

08:34AM 20 Q. What was the nature of the company's business,  
21 Ultravision Technologies, when you first started it?

22 A. I started it with a good idea of trying to develop a  
23 new type of LED display; it was modular, panels that  
24 could be interchanged and not have a cabinet.

08:35AM 25 For years in this industry, everyone had



1 installed LED displays with cabinets which have doors in  
2 the back to protect the back of the LED modules, but it  
3 made it very difficult to install and service.

4 So my goal was to eliminate the cabinet and  
08:35AM 5 develop modular LED panels that could be easily  
6 installed and actually put up against the wall without  
7 any need for a rear service or a catwalk system behind  
8 the panels.

9 Q. Did you have any plan for how you were going to go  
08:35AM 10 about manufacturing, making, developing these products  
11 when you first started Ultravision Technologies?

12 A. No. We had no manufacturing facility when we first  
13 started Ultravision Technologies. It was just -- it was  
14 a good idea, and I started traveling and looking for  
08:36AM 15 manufacturers that could actually manufacture a product  
16 for me that met our requirements in the design that I  
17 was trying to make.

18 Q. Were you ever able to manufacture your products  
19 yourself?

08:36AM 20 A. Yeah. The whole goal was to eventually start  
21 manufacturing in the United States, but we had to raise  
22 capital to do that, and we were able to do that in 2017,  
23 and we started manufacturing in 2017-2018.

24 Q. Did you actually create new modular LED products?

08:36AM 25 A. We did. Over time and trial and error, we were able

1 to create the modular LED display panel. These are  
2 panels that you see in Times Square or New York or  
3 Las Vegas or in digital billboards, but they're actually  
4 LED -- modular LED display panels. You can stack them  
5 up as high as you want or as long as you want and make  
6 large format LED displays.

08:37AM

7 Q. Now, separate from the modular LED display products  
8 that you've described, did Ultravision Technologies have  
9 any other products after it started?

08:37AM

10 A. We also developed outdoor LED lighting. When we  
11 started working on the LED lighting, there were many  
12 types of indoor LED lights for warehouses and so forth,  
13 but as soon as you took that outdoor -- that indoor LED  
14 light outside, you had problems with the rain and the  
15 environment; and so we had to figure out a way for the  
16 LED lighting to make it IP65 as well and have a heat  
17 transfer so the lights would not overheat.

08:37AM

18 So we ended up developing LED lighting  
19 that's used for parking lot lights, streetlights,  
20 signage lights, all those type of lights.

08:38AM

21 Q. With respect to your LED lighting, is there anything  
22 special about the way that the lights project onto the  
23 billboard?

24 A. Yeah. One of the things that we had to focus on is  
25 when you have an outdoor LED light, the light tends to

08:38AM

1 go everywhere, tends to light up all the space. So not  
2 only did we have to solve the heat transfer problems of  
3 the light to have it outside, but we had to be able to  
4 focus the light onto a flat designated surface.

08:38AM

5 So we worked with the optics to be able to  
6 focus the light on a sign, a billboard, or any flat  
7 surface like a parking lot or a street light where we  
8 could focus the light into a designated area so it  
9 wasn't lighting up the whole space.

08:38AM

10 Q. Were you ever able to actually develop and  
11 manufacture a new type of LED modular panel?

12 A. Yes.

13 Q. Digital display panel?

14 A. Yes.

08:39AM

15 Q. Could you characterize for the jury, please, at  
16 least the overall features of your new LED modular  
17 display panel?

18 A. Again, I had been in this business for many years  
19 with the previous company. We had always installed LED  
08:39AM 20 display cabinets, and cabinets were essentially like an  
21 IT cabinet.

22 If you can think of a storage cabinet that you  
23 would have in your garage, the doors in the back of the  
24 IT cabinet or the doors in the back of an LED display  
08:39AM 25 cabinet would protect all the components inside; but

1 when you shut those doors, you essentially created an  
2 oven inside that cabinet; so you had to have fans and  
3 vents.

08:39AM

4           There were also, inside that cabinet, you had  
5 the power supplies, you had all the LED modules; you had  
6 everything in that cabinet. The problem with that  
7 cabinet is when you installed it, then you had to have  
8 some sort of catwalk system or access to the back of  
9 that cabinet all the time to be able to access those  
10 doors, to be able to access the inside of the panels,  
11 the LED modules.

08:40AM

12           So my goal was to eliminate the cabinet. If  
13 you eliminated the cabinet, you eliminated the cost of  
14 the installation; you eliminated the weight; you also  
15 eliminated a lot of the electrical consumption.

08:40AM

16           So my whole goal was to develop a modular  
17 LED display panel that was completely sealed, that could  
18 be IP65 rated so it could stay out in the weather, and  
19 it -- also, you could access it from the front or the  
20 back.

08:40AM

21           So you could actually install those LED display  
22 panels right against a wall. Excuse me. So it allowed  
23 for LED video walls that you see a lot today.

08:40AM

24 Q. Did you ultimately receive any patents on your  
25 inventions for modular LED display panels?

1 A. Yes. We received 32 patents with modular LED  
2 displays.

3 Q. Did you ultimately receive any patents for your new  
4 type of LED lighting technology that you described?

08:41AM 5 A. Yes. We received 23 patents for the modular --  
6 excuse me, for the outdoor LED lights.

7 Q. Have you received any foreign patents from foreign  
8 countries for your modular LED display technology?

9 A. Yes. We received patents for the modular LED  
08:41AM 10 display panels. We received patents -- excuse me -- in  
11 Canada, the U.K., Europe, and Australia.

12 Q. On all of these 23 LED modular display patents which  
13 you've testified Ultravision received, were you the only  
14 named inventor on all 32 of those patents, sir?

08:41AM 15 A. No, sir.

16 Q. Who else was an inventor?

17 A. We have engineers; and Matt Foster, who is our vice  
18 president of engineering, was named on at least four of  
19 the patents.

08:42AM 20 Q. Were there any of those 32 where you were not even  
21 named at all as an inventor?

22 A. Yes.

23 Q. How many?

24 A. I believe those four that Matt was named as an  
08:42AM 25 inventor.

1 Q. On the lighting technology patents, the 23 that  
2 you've testified Ultravision owned --

3 A. Yes.

4 Q. -- were you the sole inventor on those 23 lighting  
5 technology patents?

6 A. No, sir.

7 Q. Were you the sole inventor on any of the 23?

8 A. No, sir. I was one of three or four inventors on  
9 the light patents.

10 Q. Now, you've testified you have been a named inventor  
11 on a large number of patents?

12 A. Yes.

13 Q. How do you decide, when you're filing a patent  
14 application, who should be named as a true inventor so  
15 that the patent applications would be proper? How do  
16 you make that decision, sir?

17 A. For, I guess 30 years, I've applied for patents, and  
18 you take -- I've taken all the information, and I take  
19 it down to our patent attorney who files for the patents  
20 for us, and I give them all the drawings, the e-mails,  
21 you know, all of our specifications, and we sit down and  
22 discuss all this with the patent attorney.

23 For all of these patents, we used a firm called  
24 Slater Matsil in Dallas, and we gave them all of the  
25 materials and went through the proposed inventions with

1    them, and they decided who the inventor should be.

2    Q.   Now, what type of a law firm is this Slater Matsil  
3    firm?  What do they do?

4    A.   Slater Matsil does solely applications for  
08:43AM 5    inventors.  So there are law firms that do these type of  
6    trials and then there are law firms that do nothing but  
7    patent applications, and Slater Matsil did all of our  
8    patent applications for us.

9    Q.   Were they the only patent-filing firm that you had  
08:44AM 10   ever used?

11   A.   No, sir.  I've had used several patent-filing firms  
12   over the years, but Slater Matsil is the one that's done  
13   all the patent applications for these patents.

14   Q.   Regardless of which patent-filing firm you used, did  
08:44AM 15   you always follow the procedure that you've described  
16   for giving all the information and letting the decision  
17   be made as to who should be a true inventor to the law  
18   firm?

19   A.   Yes.  We've always followed the advice of the patent  
08:44AM 20   application firm who writes the patents.  They are very  
21   detailed patent applications, and so we always followed  
22   the advice of the patent application law firm.

23   Q.   How expensive is this process, Mr. Hall, of actually  
24   working with the lawyers, preparing the patent  
08:44AM 25   applications, filing them?  How expensive?

1 A. It's very expensive especially for start-up  
2 companies because it's all -- it's the cost of writing  
3 the application; and then also, patent application don't  
4 come overnight. I mean, they take two years sometimes,  
08:45AM 5 three years to get patents issued. So you are  
6 continuous -- the patent application law firm is  
7 continuously working with the patent office to try to  
8 correctly write the claims that would be accepted by the  
9 patent office.

08:45AM 10 So it's an expensive process, and it's  
11 especially an expensive process for start-up companies.

12 Q. Can you characterize for the jury approximately how  
13 much money you spent at Ultravision Technologies  
14 prosecuting and filing these 32 panel technology patents  
08:45AM 15 and the 23 lighting patents?

16 A. Time and money, you know, probably into the millions  
17 of dollars of trying to have these patents applied for  
18 and issued by the government.

19 Q. Are you a named inventor on any other inventions,  
08:46AM 20 any other patents other than LED technology, totally  
21 away from LED?

22 A. Yeah. My background is in high school -- excuse me,  
23 college, I started a company that did -- we installed  
24 underground storage tanks into gasoline stations. I  
08:46AM 25 moved to Texas. We started a company here. My wife



1 always says that's a dumb idea, but we started a company  
2 here that we had the -- excuse me, the idea of putting  
3 gas stations in front of grocery stores, which had never  
4 been done. So we did the first one for H-E-B and then  
08:46AM 5 we did some for Albertson's and some other grocery  
6 stores.

7 As part of that, the grocery stores started  
8 lowering the price of gasoline just to get customers to  
9 come into the door. So I went back to them and came up  
08:47AM 10 with the idea called Fuel Rewards, and what Fuel Rewards  
11 is is that when you buy groceries inside of the grocery  
12 store, you actually get a discount on gasoline.

13 So you'll see that sometimes in the  
14 bottom, even today, of your grocery receipt; you'll see  
08:47AM 15 so many cents off per gallon. So that was my concept  
16 when we started that company, and we were able to get  
17 several patents on the Fuel Rewards program, which is  
18 still being used today.

19 We also, as part of this process, when I was  
08:47AM 20 involved in the storage tank business out of college,  
21 the -- all of the EPA wanted the underground storage  
22 tanks to be controlled. There were a lot of them that  
23 were leaking, so we came up with patents for aboveground  
24 storage tanks that allowed you to safely store flammable  
08:48AM 25 liquids, and that's all still being used today. So

1 total, I think I have probably 60 patents.

2 Q. On those other patents that were not LED that you've  
3 just testified about, were you the only inventor on  
4 those patents?

08:48AM

5 A. No, no. The aboveground storage tank patents, there  
6 were several inventors. On the Fuel Rewards patents for  
7 the cents off on gasoline, I know there were at least  
8 four inventors.

08:48AM

9 Q. Do you have an understanding, sir, if you are named  
10 as an inventor on a patent that is applied for and  
11 issued, what is the value, if any, to the inventor who  
12 is named with respect to their rights concerning the  
13 patent that is issued?

08:48AM

14 A. You have the rights to the technology in that patent  
15 unless it's assigned to a company. So as an inventor,  
16 you are the inventor of that patent, and you have the  
17 rights to that patent, to that technology, unless it's  
18 assigned to a company or an entity.

08:49AM

19 Q. And what can you do with those rights if you are  
20 named as an inventor on a patent that issues?

21 A. Anything. You own those rights. So you can use  
22 that technology if you are named as an inventor.

08:49AM

23 Q. Are you saying that if someone was named on a patent  
24 who really wasn't an inventor, they would nonetheless  
25 have the rights to practice that patent?

1 A. Yes. If you are named on a patent, you have the  
2 rights to use that patent and that patent technology.

3 Q. And if someone's name was on a patent even though  
4 they were not an inventor, would they have the rights to  
5 license other people to use that patent?

08:49AM

6 A. Excuse me, sir? Say that --

7 Q. If someone's named as an inventor --

8 A. Yes.

9 Q. -- would they have the right to license other people  
10 to use that patent?

08:49AM

11 A. Yes, they would, absolutely.

12 Q. Mr. Hall, why did you bring this lawsuit against  
13 Shenzhen Absen?

14 A. We just -- after developing this technology and  
15 spending years working on the technology, just -- we got  
16 to a point where we couldn't compete out there in the  
17 open market against some of the unfair prices that we  
18 were getting from some of the companies such as  
19 Shenzhen Absen Optoelectric from China.

08:50AM

20 We wanted to protect our American IP here  
21 in the United States, and we just felt like it was -- I  
22 felt that it was very unfair that we had foreign  
23 competitors that were coming in and essentially trying  
24 to copy or, you know, take American IP and sell products  
25 in America without paying any sort of royalties or

08:50AM

08:51AM

1 anything for infringing on the patents.

2 Q. Now, this lawsuit against Shenzhen Absen was filed  
3 in the year 2018. At that time when you filed the  
4 lawsuit, what were your -- what was going on with your  
5 business, not the lawsuit, but what was going on with  
6 your business for the sale of lights and panels?

7 A. We were a growing business in 2017 and 2018. We had  
8 a manufacturing facility in Farmers Branch. We had, you  
9 know, almost 100 people. We were actually assembling  
10 both LED lights and LED display panels at the  
11 manufacturing facility. We had won several large  
12 contracts.

13 We had just installed eight displays in  
14 Times Square. We had over 100 displays that we  
15 installed in Europe. We installed the most LED displays  
16 in London, the most LED displays in the U.K., the  
17 largest LED display in Europe. So it was a very -- it  
18 was a very growing business.

19 Q. Mr. Hall, what is the status of your business  
20 operations today, as you sit here in this courtroom?

21 A. We're down to less than ten people and trying to  
22 rebuild. We've been unable to compete over the last  
23 couple of years with the foreign competitors, especially  
24 the Chinese competitors, on price.

25 2020 was a terrible year for us due to

1 COVID, but we're trying to rebuild, and what we're  
2 trying to rebuild with is selling -- we cannot compete  
3 anymore on the LED display displays, so what we're  
4 trying to do is we're trying to rebuild with the outdoor  
5 LED lighting.

08:52AM

6 Q. Do you today have any manufacturing production  
7 capabilities in your Farmers Branch facility?

8 A. We have all of the assembly lines, but we don't have  
9 any of the people actually doing the assembly.

08:53AM

10 Q. Do you --

11 A. So the facilities are there, all the assembly lines  
12 are there, but we don't have anyone actually doing the  
13 assembly yet.

14 Q. When was the last time you were actually able to  
15 manufacture orders in the factory in Farmers Branch?

08:53AM

16 A. Summer to early fall of 2019.

17 Q. Now, why do you have a problem with Shenzhen Absen  
18 practicing your patents?

19 A. Again, it just seems that it is unfair and it's --

08:53AM

20 you know, I guess this is taking a little bit of a stand  
21 in that we developed this product.

22 We have 32 patents on it in the United States  
23 and, you know, worldwide patents, and they have been  
24 able to duplicate or copy the product, and they sell it  
25 in the United States with apparently no regard for

08:54AM

1 American IP, and we've been unable to compete against  
2 them. This is, you know, why we brought this to trial.

3 Q. Mr. Hall, your --

4 MR. McCARTHY: Your Honor?

08:54AM

5 THE COURT: Just a minute. Yes, counsel?

6 MR. McCARTHY: I'd just like to object with the  
7 direction that this question and answering is going,  
8 with no specific evidence of any copying in this case.  
9 This seems to be tied specifically to China.

08:54AM

10 THE COURT: All right.

11 Ladies and gentlemen, this is probably a matter  
12 I need to take up with counsel outside of your presence.  
13 I'm going to ask you to retire to the jury room for just  
14 a minute. If you'll simply leave your notebooks in your  
15 chairs, and I'll have you back in here as soon as  
16 possible. Follow all my instructions, please, including  
17 not to discuss the case with each other.

08:54AM

18 The jury should retire to the jury room.

19 (Whereupon, the jurors exit the courtroom.)

08:55AM

20 THE COURT: Be seated, please.

21 Do you have a response to the objection?

22 MR. FABRICANT: Yes, your Honor. We are, in  
23 fact, about to get into some questions dealing with  
24 Ultravision's attempts to directly compete with Absen in  
25 the state of Texas.

08:55AM

1           We started in the opening, if your Honor will  
2 recall, Mr. Gillam put up a demonstrative which showed  
3 sales in the state of Texas; they have been very active  
4 here. Mr. Hall will testify about his attempts to  
5 compete and put bids in the state of Texas and will  
6 testify as to the fact that he was not able to secure  
7 any of those and why, due to the fact that the prices  
8 are lower. But we don't intend to ask questions about  
9 or get into any other aspects of the competition other  
10 than the fact that their prices are lower and he hasn't  
11 been able to compete on these against them.

12           THE COURT: All right. Well, I'm going to  
13 sustain the defendants' objection. There is a, agreed  
14 among the parties, order in limine, MIL Number 14, that  
15 precludes characterizing the defendants as Chinese  
16 businesses; it precludes references to Chinese IP theft,  
17 and Mr. Hall's testified directly about those matters,  
18 I'll note without objection until Mr. McCarthy stood up  
19 a minute ago.

20           Let me make it clear to both parties. I have  
21 no problem with plaintiff talking about the Defendant  
22 Absen doing this. I have a problem, and I believe it is  
23 a violation of this order in limine for Plaintiff to  
24 talk about Chinese Absen doing this, and there's been  
25 more than enough references to China and Chinese

1 attempts to steal American intellectual property.  
2 That's directly what this order in limine goes to.

3 I'm going to do this. I'm going to direct both  
4 parties to cease referring to "Shenzhen Absen  
08:57AM 5 Optoelectric," that defendant, as "Shenzhen Absen."  
6 Call them "Absen." Every time you say the word  
7 "Shenzhen," you're waving a Chinese flag in front of the  
8 jury. Call them "Absen"; that's a generic name that  
9 doesn't have any geopolitical connotations to it.

08:57AM 10 I don't know of another place in the world  
11 named "Shenzhen" except China. That has clear  
12 political, geopolitical connotations to it and seems to  
13 violate, in my view, the agreed-upon order in limine  
14 number 14.

08:58AM 15 And, Mr. Hall, I don't want any more testimony  
16 about Chinese this or Chinese attempts to steal American  
17 IP. I have no problem presenting to the jury  
18 Ultravision versus Absen, and you can talk about the bad  
19 acts that each of you have done, but you are not to  
08:58AM 20 characterize them as America versus China. That's what  
21 this MIL is all about, and you-all agreed to it, and you  
22 are going to abide by it.

23 And I think we are -- we've gone down that path  
24 further than we should have gone down the path before,  
08:58AM 25 but Mr. McCarthy made his first objection when he made



1 his first objection. I'm going to sustain the  
2 objection.

3 I'm going to direct the parties to no longer  
4 refer to one of the defendants with the word "Shenzhen"  
08:58AM 5 before the jury. Simply call them "Absen." That's what  
6 I told them, in my preliminary instructions, you were  
7 going to call them, and then you, at least the  
8 plaintiffs, have continued to call them "Shenzhen Absen"  
9 every time you've identified them. Call them "Absen."  
08:59AM 10 Talk about what each party has done or not done to the  
11 other. Stop the ethnic, nationalistic, geopolitical  
12 references to China versus America. That's not what  
13 this trial's about.

14 Everybody understand the Court's position?

08:59AM 15 MR. FABRICANT: Yes, your Honor.

16 THE WITNESS: Yes, your Honor.

17 THE COURT: All right. Let's bring in the  
18 jury.

19 (Whereupon, the jurors enter the courtroom.)

09:00AM 20 THE COURT: Thank you, ladies and gentlemen.  
21 Please be seated.

22 Ladies and gentlemen, I want to remind the jury  
23 that this lawsuit is between Ultravision and the two  
24 Absen defendants. This is not a lawsuit between the  
09:00AM 25 United States and China. You are not to consider the

1 evidence in any reference to the two different countries  
2 from which these parties originate. You are to focus on  
3 the parties themselves and what the parties have done,  
4 not where they come from and not what countries they  
5 call home.

09:00AM

6 All right. With that, let's continue,  
7 Mr. Fabricant.

8 MR. FABRICANT: Yes, sir. Thank you, your  
9 Honor.

09:00AM

10 Q. Mr. Hall, were you in the courtroom for the opening  
11 statements by counsel?

12 A. Yes, sir.

13 Q. And did you see, in the opening statement of  
14 Mr. Gillam, he put up some slides, and one of the slides  
15 showed sales that apparently Absen made in the State of  
16 Texas? Do you recall that?

09:00AM

17 A. Yes, sir.

18 Q. To your knowledge, have you ever competed for sales  
19 directly against Absen?

09:01AM

20 A. Yes, sir. For several of those projects, we  
21 competed against Absen for those sales. One in  
22 particular was the Cotton Bowl, which we -- our product  
23 was actually specified by the engineers for the  
24 Cotton Bowl.

09:01AM

25 Q. Did you win that contract, sir?

1 A. No. We were -- the competing bids were  
2 approximately half the price or a million dollars lower  
3 than our prices.

09:01AM

4 Q. What has been the result to Ultravision of your  
5 inability to compete fairly on price? What has been the  
6 result of the company?

09:01AM

7 A. Well, we've just been unable to win bids out there  
8 for product sales. We've been unable to compete on  
9 price, and over time we've had to shut down all of the  
10 production and all of the manufacturing here in the U.S.

11 Q. Mr. Hall, I would like to show you Plaintiff's  
12 Exhibit Number 1. Can you tell the jury what is  
13 Plaintiff's Exhibit Number 1?

09:02AM

14 A. That is one of our patents, patent number 9,207,904.

15 Q. And we call that the '904 Patent in this trial; is  
16 that your understanding, sir?

17 A. Yes.

18 MR. FABRICANT: And if we could show Mr. Hall  
19 Plaintiff's Number 2.

09:02AM

20 Q. Mr. Hall, is this the '782 Patent that you received  
21 from the U.S. government?

22 A. Yes, it is.

23 MR. FABRICANT: If we can show Mr. Hall  
24 Plaintiff's Exhibit Number 3.

09:02AM

25 Q. Mr. Hall, is this the '294 Patent that you received

1 from the U.S. government?

2 A. Yes, it is.

3 Q. And while we have Exhibit Number 3 up here, I would  
4 just ask you, drawing your attention straight down on  
09:03AM 5 the right column, there is a line that says, "Attorney,  
6 agent, firm, Slater Matsil, LLP." Do you see that?

7 A. Yes, sir.

8 Q. And is that a reference to that patent law firm that  
9 you've testified to earlier this morning?

09:03AM 10 A. Yes, sir. That's the patent law firm that we used  
11 in Dallas, Texas.

12 Q. And are you the named -- the sole named inventor on  
13 Exhibits 1, 2, and 3?

14 A. Yes, I am.

09:03AM 15 Q. And with respect to these three patents -- you've  
16 testified about other patents, but with respect to these  
17 three patents, what was the process for determining who  
18 should be the named inventor or inventors on each of  
19 these three patents, sir?

09:03AM 20 A. We would take all of our drawings, any of the  
21 specifications, you know, any of the e-mails, all of the  
22 information that we had, and we would sit down with the  
23 attorneys at Slater Matsil and go through all of the  
24 drawings, all of the ideas, all the specifications, and  
09:04AM 25 then they would determine who the inventor was and they

1 would write the patent applications for us.

2 Q. What is your understanding as to the date of  
3 invention on each of the three patents-in-suit.

4 A. July of 2014. I believe it's July 28 of 2014.

09:04AM

5 Q. Was that the date of the filing of your formal  
6 application for the modular LED display technology?

7 A. Yes, sir.

8 Q. Prior to that date of July 28, 2014, had you filed  
9 any prior form of application with respect to the

09:04AM

10 modular LED technology?

11 A. Yes, sir. You sometimes file a provisional patent  
12 application; and you do that to notify the patent office  
13 that you will be filing a formal patent application for  
14 the inventions. So we filed a provisional patent  
15 application in December of 2013.

09:05AM

16 Q. I'd like to show you Plaintiff's Exhibit Number 9,  
17 Mr. Hall. Can you identify for the jury Plaintiff's  
18 Exhibit Number 9?

19 A. That appears to be a patent application for system  
20 or method of modular display panels.

09:05AM

21 Q. And is this the provisional application, sir, that  
22 you filed?

23 A. Yes, sir, it is. This is the first page of it, yes.

24 Q. Now, do you have an understanding, as the inventor  
25 of these three patents, Exhibits 1, 2, and 3, as to what

09:05AM

1 inventions are covered by the three patents?

2 A. Yeah. These three patents cover the goal of what we  
3 were trying to develop, was to get rid of the cabinets,  
4 eliminate the cabinets; so you eliminated the weight,  
09:06AM 5 you eliminated power consumption, you eliminated the  
6 need for the catwalk systems behind the cabinets.

7 The whole goal was to lower the total cost  
8 of installation and to lower the cost of operation.

9 Excuse me. And the way we would do that is by

09:06AM 10 developing modular interchangeable -- excuse me, modular  
11 LED display panels that were plastic, lightweight,  
12 sealed to be waterproof; so they had to be IP65 rated,  
13 and also that you could interchange, that you could  
14 easily change out.

09:07AM 15 If you think of the old cabinet systems, if  
16 there were a problem, you had to open up the back of the  
17 cabinet and you had to go into it and had to figure out  
18 why the cabinet -- you know, why the LED display was not  
19 working anymore.

09:07AM 20 With our new system, with our modular LED  
21 display panels, we wanted to be able to detect whether a  
22 panel was not operating and to be able to go out and  
23 exchange that panel and essentially hot-swap that panel  
24 without turning off the whole LED display; so you could  
09:07AM 25 go out and you could just exchange one panel.

1 By getting rid of the cabinets, it also allowed  
2 for LED video walls. So you could actually put the LED  
3 display panels up against video walls -- or up against  
4 the wall to create LED displays or LED display video  
5 walls.

09:07AM

6 Q. Mr. Hall, I'd like you to look at Plaintiff's  
7 Exhibit 2, which I believe is the '782 Patent. Do you  
8 see it, sir?

9 A. Yes.

09:08AM

10 Q. And I would like to draw your attention to the claim  
11 that is asserted in this lawsuit today, and I believe  
12 it's Claim Number 9.

13 MR. FABRICANT: So, Mr. Thompson, if you could  
14 take us to Claim Number 9 and blow it up, please.

09:08AM

15 Q. Now, Claim Number 9 says, "The panel of Claim 1,  
16 wherein the first thermally conductive material  
17 comprises plastic." What does it mean to you when it  
18 says, "The panel of Claim 1"? What is this?

19 MR. MCCARTHY: Your Honor, we're getting  
20 dangerously close to expert testimony here.

09:08AM

21 THE COURT: Overruled. This is an appropriate  
22 question.

23 Go ahead, counsel.

24 MR. FABRICANT: Thank you, sir.

09:08AM

25 Q. Go ahead.

1 A. This Claim 9 is a dependent claim, so it's dependent  
2 on all of the claims in Claim 1. It's an additional  
3 dependent claim from Claim 1.

09:09AM 4 MR. FABRICANT: So let's look at Claim 1 which  
5 is part of Claim 9, and if you could blow up Claim 1,  
6 please.

7 Q. What is claimed is a modular display panel. What  
8 did you intend by "a modular display panel"?

09:09AM 9 A. Modular display panel is a panel without a cabinet  
10 that is completely sealed to be waterproof, that can be  
11 interchangeable and hot-swappable. Again, you can stack  
12 these modular LED display panels as high or as long as  
13 you wanted to create large LED displays.

09:09AM 14 Q. And what, to your understanding, based on being the  
15 inventor of this and all the experience you've testified  
16 to, is a cabinet? What is a cabinet?

17 A. A cabinet is a protective structure around the LED  
18 modules. So --

09:10AM 19 MR. McCARTHY: Your Honor, we have claim  
20 constructions on these things.

21 THE COURT: If the term's been construed by the  
22 Court, then this is inappropriate to inquire of the  
23 witness about it. If the term's not been construed by  
24 the Court, then he can testify as to what he believes  
09:10AM 25 the plain and ordinary meaning of the term is.



1 MR. FABRICANT: Yes, your Honor. I'll withdraw  
2 that question.

3 THE COURT: All right. Let's proceed on that  
4 basis.

09:10AM 5 Q. Mr. Hall, the second element is a shell comprising a  
6 first thermally conductive material wherein the  
7 sidewalls of the shell comprise plastic?

8 A. Yes.

9 Q. And what did you intend the use of plastic for?

09:10AM 10 A. We intended the use of plastic to, number one, make  
11 the LED display panel lightweight, to eliminate the  
12 weight of aluminum or -- excuse me, just to lower the  
13 weight of the panel but also to be able to seal that  
14 panel so it was waterproof or IP65 rated.

09:11AM 15 Q. And if we could go back to Claim 9, which was the  
16 dependent claim which includes all of Claim 1. The  
17 panel of Claim 1, wherein the first thermally conductive  
18 material comprises plastic, what was your intention  
19 there, sir?

09:11AM 20 A. Again, the intention was to have plastic that could  
21 completely seal and waterproof that panel but still make  
22 it very lightweight; and plastic has thermal conductive  
23 capabilities, so the goal was to lower the weight and  
24 completely seal that panel so it was an independent  
09:12AM 25 modular LED display panel.

1 Q. Now, you claim in this lawsuit that Absen infringes  
2 dependent Claim 9, which includes the elements of Claim  
3 1 of this patent?

4 A. Yes, sir.

09:12AM 5 Q. And were you able to make that decision?

6 A. No, sir. We relied on advice from our attorneys.

7 Q. Were you able, yourself, to make any aspects of that  
8 decision as to whether the Absen panels met the claim?

9 A. Well, absolutely. You can look at the products  
09:12AM 10 manufactured by Absen, and you can see they are no  
11 longer using the cabinet or the protective doors on the  
12 back of the -- on their LED displays; there's no more  
13 doors on the back protecting those modules and the  
14 components. They have moved away from cabinets  
09:13AM 15 completely.

16 Q. Could you tell anything about the substance that  
17 they were using to make their housings?

18 A. Yes. If you look at all their LED display modules  
19 now, they are all made of plastic. They are all sealed  
09:13AM 20 LED display panels that are --

21 MR. McCARTHY: Your Honor, I object. This is  
22 expert testimony.

23 THE COURT: All right. Mr. McCarthy, if you'll  
24 stand all the way up and address the Court when you want  
09:13AM 25 to object instead of crouching over halfway; and I can't

1 tell when you're objecting or not objecting.

2 MR. McCARTHY: I object, your Honor. This is  
3 expert testimony on infringement.

4 THE COURT: What's your response,  
09:13AM 5 Mr. Fabricant?

6 MR. FABRICANT: Your Honor, my response is that  
7 the witness saw that the panels were made out of  
8 plastic. Plastic is a plain and ordinary meaning in  
9 this lawsuit, and this is a witness who's been in the  
09:13AM 10 business for 35 years or something like that.

11 THE COURT: Well, there's always a fine line to  
12 walk when you have an inventor who is not an expert  
13 witness who's presented as a fact witness and allowing  
14 the witness to testify as to what they have within their  
09:14AM 15 own personal knowledge as a fact witness but keeping  
16 them from offering opinion testimony that only an expert  
17 is permitted to offer.

18 At this point I'm going to overrule the  
19 objection with regard to his understanding of what  
09:14AM 20 plastic is, but I will caution Plaintiff that he's not  
21 to -- you are not to inquire as to matters that call for  
22 direct opinion testimony.

23 MR. FABRICANT: Yes, your Honor.

24 THE COURT: Let's proceed.

09:14AM 25 Q. Prior to bringing the lawsuit, Mr. Hall, were you

1 yourself able to make any determination as to whether  
2 the accused Absen panels were waterproof?

3 A. Yes. We had seen their product at several trade  
4 shows, we had seen their literature, and we could see  
09:15AM 5 that they were no longer using the doors in the back or  
6 the protective cabinets; they moved to a type of plastic  
7 module to actually protect the panels without using the  
8 doors or the cabinets in the back, and they no longer  
9 had to have the -- you know, the area, the catwalk  
09:15AM 10 system behind their panels.

11 We also saw a video in 2017 of -- it was on  
12 YouTube where they showed their new product and they  
13 showed how their new product had no cabinet doors and  
14 how easily their product could be hot-swapped or  
09:15AM 15 exchanged.

16 And they stated in the video on YouTube that it  
17 was IP67 rated and this was their new product that they  
18 were entering into the market with. It was very  
19 different than what Absen had sold before.

09:16AM 20 Q. Mr. Hall, I show you Plaintiff's Exhibit 814.

21 MR. FABRICANT: Mr. Thompson, if you'd bring  
22 that up. Would you play 814, please.

23 (Video played, as follows:)

24 VIDEO: "Our Absen booth. My name is  
09:16AM 25 Nick Herron. We are showcasing right now our new

1 product right off the bat with our X3v series. This is  
2 a 3.9 mil product that we want to show you, give you a  
3 hands-on demo. If you want to come on over to walk  
4 around the back and we'll show you how to take out the  
09:16AM 5 power supply and give you a little bit more details on  
6 how the panel comes together. So come on right through.

7 "So off the bat, we have an IP67 rating on this  
8 two-foot by two-foot square panel. I have my assistant  
9 here to help me take off a panel real quick. It just  
09:17AM 10 adjusts by two locking bolts on the side and then two  
11 swing locks on the top. Once you unlock it, it will  
12 just swing down easy-peasy, and then you will have four  
13 modules that can actually be taken out, and it holds in  
14 by neodymium magnets.

09:17AM 15 "And, like I said before, it is IP67 rating.  
16 These also have angle adjustments, so you have a plus  
17 and minus 5 angle adjustments on the corner here. So  
18 you can do a convex or a concave curve depending on your  
19 application.

09:17AM 20 "Going to the power block, we wanted to show  
21 you a couple little latch locks, easy to just remove.  
22 You have your weather seal for the IP rating and all  
23 your internals, which is very easy with Phillips head  
24 screwdrivers to remove and replace any type of problem  
09:18AM 25 that you might have happen. All TRUE1 Neutrik

1 connectors for power and for Ethernet or data. And then  
2 as easy it is to come off, it goes on just as easy. You  
3 just align the pins, top and bottom, you make the good  
4 seat, and then you latch the latches back in.

09:18AM

5 "If you want to see any more of this product  
6 or any other products that we have -- we have a lot --  
7 you can come by booth 931, and this is -- my name is  
8 Nick Herron again, and visit the website, by the way, at  
9 www.usabsen.com. Thank you. Bye-bye."

09:18AM

10 (End of video played.)

11 MR. FABRICANT: Can you freeze it right at the  
12 end there and hold it, please.

13 Q. Mr. Hall, when you look at this frozen frame of the  
14 video, first I'll ask you is this the video that you saw  
15 when you went online?

09:18AM

16 A. Yes.

17 Q. Can you see the modules, the actual panels on this  
18 video right here and on this frozen frame?

19 A. Yeah. There appear to be four plastic modules. You  
20 can see the handles on the back.

09:19AM

21 MR. FABRICANT: All right. You can take down  
22 the exhibit, please.

23 Q. Mr. Hall, I'd like to show you Plaintiff's Exhibit  
24 3, which is the '294 Patent. You are asserting Claim 22  
25 of the '294 Patent, so if we can go to Claim 22.

09:19AM

1 MR. FABRICANT: Blow up Claim 22, Mr. Thompson.

2 Q. Mr. Hall, are there any differences between Claim 22  
3 of the '284 [sic] patent and Exhibit 2, Claim 9 of the  
4 '782 Patent?

09:19AM

5 A. Essentially the biggest difference in these two  
6 patents is that we were able to describe -- we were able  
7 to keep the patent -- excuse me, the LED display panels  
8 cool or from overheating and IP65 rated without fans; so  
9 we eliminated the need for the fans in the back of the  
10 panels.

09:20AM

11 MR. FABRICANT: Can you go to the end of the  
12 claim, please.

13 Q. I'd like to read the last two elements: "Wherein  
14 the modular display panel is configured to be exposed to  
15 an external environment without a protective waterproof  
16 enclosure; and wherein the modular display panel is  
17 configured to be cooled passively without fans."

09:20AM

18 Is that the distinction that you've  
19 testified to, Mr. Hall?

09:20AM

20 A. Yes, sir. Because we were trying to create the  
21 modular LED display panels, but if you had fans in the  
22 back of them, they could not be IP65 rated; it would  
23 allow for water ingress.

24 THE COURT: Mr. Hall, he simply asked you was  
25 that what you intended to do, and you answered him fully

09:21AM

1 when you said "yes, sir."

2 THE WITNESS: I'm sorry.

3 THE COURT: He didn't ask you to explain why or  
4 give the reasons behind it. Try to limit your answers  
09:21AM 5 to the questions asked, please.

6 THE WITNESS: Will do, sir.

7 THE COURT: All right. Continue, please,  
8 counsel.

9 Q. Mr. Hall, I'd like to show you Plaintiff's

09:21AM 10 Exhibit 1, which is the '904 Patent, and it's Claim 1 of  
11 the '904 Patent that you asserted in this lawsuit.

12 A. Okay.

13 Q. Could you tell the jury what was the invention that  
14 you understood as the inventor that is found in Claim 1  
09:21AM 15 of the '904 Patent?

16 A. I'm sorry. Could you ask that one more time?

17 Q. What is the invention which you intended to be found  
18 and contained within Claim 1, the method claim of the  
19 '904 Patent?

09:22AM 20 A. So the concept of this -- or the idea behind these  
21 panels was, again, to be able to detect if one of the  
22 panels was not working and to be able to hot-swap that  
23 panel without having to shut down the whole display.

24 So if you can imagine a large display in

09:22AM 25 Times Square or in a sports stadium, if you have one



1 panel that goes out, you don't want to have to shut down  
2 the whole display to replace that one panel. So what  
3 this claim is for is identifying that panel through  
4 signals of any of the adjacent panels or the panel  
09:22AM 5 itself and then being able to go in and change out that  
6 panel and hot-swap that panel and replace it with a  
7 panel, an operating panel. So it lowers the cost of  
8 maintenance without having to shut down the display.

9 MR. FABRICANT: You can take down the exhibit.

09:23AM 10 Q. Mr. Hall, as of the filing date of your first LED  
11 modular display patent application -- which you've  
12 testified the formal one was in July of '14; the  
13 provisional one was in December '13 -- had you ever  
14 seen, as of those dates, another product anywhere in the  
09:23AM 15 world which had the features of the asserted claims of  
16 the patents in this lawsuit?

17 A. No, sir.

18 Q. How much exposure did you yourself have to panels  
19 that other competitors had all around the world back in  
09:23AM 20 2013 and 2014?

21 A. Tremendous exposure. I mean, my previous company,  
22 BillBoard Video, we installed LED displays in  
23 Times Square, we did 70 percent of the displays in  
24 Times Square, Las Vegas. You know, I had owned that  
09:23AM 25 company and built that company and sold that company,

1 but I was very familiar with all the products in the  
2 industry and had even traveled around the world to look  
3 at different products and how we could try to improve on  
4 the technology that was out there.

09:24AM

5 Q. Was it a regular part of your practice to go to  
6 trade shows?

7 A. Absolutely.

8 Q. And where were those trade shows?

9 A. Throughout the United States and Europe primarily.

09:24AM

10 Q. And who typically attends trade shows?

11 A. In the beginning it was -- when I started  
12 Ultravision, it was just myself; but as Ultravision  
13 started to grow, we would also take engineers with us  
14 and salespeople to go to the trade shows.

09:24AM

15 Q. My question is: Who usually is at these trade shows  
16 showing their products?

17 A. Oh. All of the competitors. I mean, you'll see  
18 every major LED display competitor at these trade shows.

09:24AM

19 Q. In the video that we played a few moments ago for  
20 the jury, was that a trade show?

21 A. Yes, it was.

22 Q. Can you describe, please, for the jury what is  
23 actually an LED panel? How does LED panel technology  
24 work? I'm not talking about your invention.

09:25AM

25 A. So LED display panels, if you look at LED displays

1 that you might see on digital billboards on the side of  
2 freeways or if you go to Las Vegas or maybe Shreveport,  
3 you'll see these large LED displays, or Times Square,  
4 they are not just one large LED display; they're made up  
5 of smaller panels that are put together.

6 So on the side of a freeway, if you see a  
7 digital billboard, it might have 300 panels, you know,  
8 whether it's our panel or somebody else's panel. When  
9 you look at a sign in Las Vegas, it might have a  
10 thousand of those square LED panels. If you go to  
11 Times Square, you might see 1,800 or 2,000 of those  
12 panels put together, but all of the LED displays are  
13 primarily composed of smaller LED display panels that  
14 you assemble to make those displays.

15 Q. What is actually making the panel work? What kind  
16 of technology lights it up?

17 A. Inside the panel, you have LEDs, which are  
18 essentially microprocessors that emit light, and each  
19 one of those LEDs are -- emit red, blue, and green  
20 light, RGB. So you have thousands of LEDs that are in  
21 these panels. You may have hundreds of LEDs in each  
22 panel, but if you look at a large LED display, there's  
23 thousands and thousands of these tiny LED chips in those  
24 panels, and those LED chips light up and create the  
25 pixels, or the points of light that create that LED

1 display.

2 Q. Mr. Hall, do you claim to have invented LEDs?

3 A. No, sir.

4 Q. Do you --

09:27AM

5 A. LEDs are used in everything from flashlights to cars  
6 to home lighting or office lighting.

7 Q. So you don't have any claim to have invented LED or  
8 LED technology, sir?

9 A. No, no.

09:27AM

10 Q. Mr. Hall, I'd like you to show the jury Plaintiff's  
11 Exhibit Number 807, which I believe is a panel that's  
12 behind you, a physical panel called the Master Plus  
13 model.

14 A. Okay.

09:27AM

15 Q. Do you have it?

16 A. Yeah. You want me to hold it?

17 Q. Yes.

18 A. Yes.

19 Q. And on the front of that panel, what are those  
20 little teeny white dots?

09:27AM

21 A. Those are the LED chips that emit the light. So  
22 each one of those LED chips has a red, blue, green diode  
23 on the inside of it. Although they look white, they  
24 have a red, blue, green diode microchip on the inside of  
25 it, and that's what creates the point of light and can

09:28AM

1 create actually millions of different colors of light.

2 Q. Does every LED display panel manufacturer use some  
3 version of those LED-type lights?

09:28AM

4 A. Yes. There are many different manufacturers of  
5 these LEDs. And the actual display manufacturers will  
6 buy these LEDs from several different manufacturers.

7 Q. What is Plaintiff's Exhibit 807, the panel that you  
8 are holding in your hand? What is it?

09:28AM

9 A. This was our -- the most recent panel that we  
10 designed and sold. It's the Master Series Plus. This  
11 is the one that we manufactured in Dallas. This is the  
12 one that we sold, you know, in several different  
13 locations throughout Europe, and this is the one -- the  
14 final panel that we were actually manufacturing in  
15 Dallas.

09:29AM

16 Q. Could you show the jury the back of the panel,  
17 please?

18 A. (Complies.)

09:29AM

19 Q. And while you are holding it up, I just want to ask  
20 you a few questions about it. What is the housing made  
21 of?

22 A. The housing is primarily plastic. It's all plastic.

23 Q. Does this Master Series panel have any cooling fans?

24 A. No. It's completely sealed, so it's waterproof.

09:29AM

25 Q. Does it have any vents, sir?

1 A. No. There's no -- there's no vents or fans so water  
2 cannot get into the back of it. Then, if you can see,  
3 because there's no vents or fans or cabinets, you can  
4 actually stack it against the wall and create LED video  
09:29AM 5 walls or walls that you might see in sports stadiums or  
6 airports or things of that nature.

7 Q. So what was the problem here? Why was it so -- take  
8 you so long to come up with this invention?

9 A. It was a tremendous amount of trial and error  
09:30AM 10 because when you got rid of the cabinet and you got rid  
11 of the enclosure in the back, you had a tremendous  
12 problem with cooling and keeping this panel cool and  
13 operating and still keep it IP65 rated.

14 So we went through many different versions of  
09:30AM 15 this to actually get to a final panel that would work  
16 and would work in the environment and was very  
17 dependable. These panels are still in use throughout  
18 the world today.

19 Q. Thank you, Mr. Hall. You can put down the panel.

09:31AM 20 Now, you testified today about a prior business  
21 you had, BillBoard Video business, I believe you called  
22 it; is that right?

23 A. Yes.

24 Q. And when did you start the BillBoard Video business?

09:31AM 25 A. I believe we started that business in 1999.

1 Q. And --

2 A. 2000.

3 Q. -- what type of products did BillBoard Video sell?

4 A. We sold LED displays. We started out -- with my  
09:31AM 5 experience in the grocery stores, we started out trying  
6 to sell the LED displays into grocery stores and to the  
7 gasoline stations, but we eventually started selling the  
8 LED displays to larger format LED displays, and we did a  
9 lot of the displays you see in Times -- at the time,

09:31AM 10 most of the displays in Times Square, about 70 percent  
11 of the displays in Times Square, a lot of the large  
12 format LED displays in Las Vegas, Los Angeles. We  
13 really got to specialize in large-format LED displays.

14 Q. And how were those displays put together? What type  
09:32AM 15 of systems were they?

16 A. Cabinets. We used cabinets for everything. When  
17 you installed those cabinets, you had to install the  
18 walkway system behind the cabinets to be able to access  
19 those cabinets and access those doors. So every time  
09:32AM 20 you would go to see a display in Times Square, somewhere  
21 behind that display was a large catwalk system to be  
22 able to access those doors.

23 Or even the billboards -- if you saw a  
24 billboard on the side of a freeway, it still had to have  
09:32AM 25 a catwalk access system behind it to be able to access

1 those doors and be able to access those displays.

2 Q. Mr. Hall, why did you have to have the space behind  
3 you? Why couldn't you just service it and repair it  
4 from the front?

09:32AM

5 A. Because the cabinets only open from the back. So  
6 you had to be able to open those doors and go into the  
7 cabinet and see if you had a power supply that was out,  
8 an LED module that was out. You know, sometimes you'd  
9 have critters and rats and things that would get in and

09:33AM

10 chew the wires. But you had to access all the cabinets  
11 from the back and we had to send in technicians to open  
12 up those cabinets and see what the problem was, if there  
13 was any -- if the display was down for any reason.

14 Q. Mr. Hall, I'd like to show you DTX-417. And what is  
15 this document?

09:33AM

16 A. Appears to be one of our sales presentations for the  
17 Ultravision LED product.

18 MR. FABRICANT: Mr. Thompson, if you'd go to  
19 Page 3003 at the bottom.

09:33AM

20 Q. Could you tell the jury what is depicted in the two  
21 pictures that are on the right side of Page 3?

22 A. This was -- this slide describes my previous  
23 experience. It describes, I think, management  
24 experience. But these are some of the displays that,  
25 with my previous company, BillBoard Video, that we

09:34AM



1 installed in Times Square. The bottom display is the  
2 Chase Manhattan -- JPMorgan Chase display, which at the  
3 time was put in the Guinness Book of World Records for  
4 the largest LED display in the world.

09:34AM

5 Then we installed the ABC sign display, which  
6 is the one with all of the waves, which is actually the  
7 most photographed display in the world. So these are  
8 some of the displays that we installed at  
9 BillBoard Video.

09:34AM

10 MR. FABRICANT: Could you please show the  
11 witness Page 7 of this exhibit.

12 Q. Mr. Hall, what is depicted on the left side of  
13 Page 7?

09:34AM

14 A. That's actually one of the back rooms or the catwalk  
15 system where you would have to access the panels in the  
16 back -- excuse me, the cabinets in the back. So we had  
17 to have rooms that were -- in Times Square that were  
18 actually cooled. You can see all the cooling vents on  
19 the left, but there are cabinets in there. So you had  
20 to be able to access the back and be able to open the  
21 cabinets and do any work on the LED displays.

09:35AM

22 To the right is another cabinet system, and  
23 that one was just being at the top. It was just being  
24 installed for a billboard, you know, a billboard that  
25 you might see on the side of a freeway, but it was --

09:35AM

1 any of these cabinet systems had to have large -- for  
2 the catwalk -- or frames and catwalk systems behind it.

3 Q. If we could go to Page 12 of the exhibit. Mr. Hall,  
4 what is shown on Page 12 of the exhibit?

09:35AM

5 A. This is where we installed an LED display for a  
6 demonstration to show the unique advantages of the  
7 invention, and you can see that our display panels could  
8 be stacked up and installed right against a wall. There  
9 was no cabinet behind it, there's no doors behind it, so

09:36AM

10 you can stack up the panels and make them as high or as  
11 long as you want it with a frame that can go right  
12 against the wall.

13 Q. No space at all behind those panels?

14 A. No, there's no space necessary behind them at all.

09:36AM

15 MR. FABRICANT: Please show the witness Exhibit  
16 812, Page 3.

17 Q. Mr. Hall, what is depicted in Exhibit 812?

18 A. That is a traditional LED display cabinet system.

19 That is the one that we installed for years and years

09:37AM

20 and that was the standard in the industry when I started  
21 Ultravision. Almost every manufacturer manufactured and  
22 installed some type of cabinet system, including my old  
23 company.

24 Q. Now, with respect to the business of selling LED

09:37AM

25 displays, is there any economic advantage to the seller

1 to be able to use a modular display like your technology  
2 versus the old cabinet system?

3 A. Yes. The whole goal when I started the company was  
4 to lower the total cost of installation and to lower the  
09:37AM 5 total cost of operation. That was the mission statement  
6 of the company. So when you got rid of the cabinet, you  
7 got rid of the weight of the cabinet, you lowered the  
8 electrical consumption, but you also got rid of the need  
9 for those catwalk systems or those access systems behind  
09:38AM 10 the cabinet.

11 So like in the case of our customer in  
12 Times Square, they were able to save approximately  
13 \$2 million on the installation of their display because  
14 they did not have to install all that heavy steel  
09:38AM 15 cabinetry behind the LED displays.

16 When we started doing the projects in London,  
17 same thing; we saved them hundreds of thousands of  
18 dollars for installation because they were able to  
19 eliminate the weight and the installation cost of the  
09:38AM 20 cabinet system and we were able to deliver a very  
21 lightweight plastic panel that was easy to install, easy  
22 to maintain, and it saved them hundreds of thousands of  
23 dollars on the installations. It was a fundamental  
24 change in the industry.

09:39AM 25 Q. Mr. Hall, I'd like to show you Plaintiff's

1 Exhibit -- I'm sorry, DTX-17, Page 2. 17 -- 417. I'm  
2 sorry. And what is shown on Page 2 of Exhibit 417?

3 A. That was for my old company, BillBoard Video. We  
4 were actually one of the 20 fastest growing companies in  
09:39AM 5 the United States. And I guess this was 2004. I had  
6 more hair.

7 Q. And is that the Chase display panel that is behind  
8 you in this picture?

9 A. Yes.

09:39AM 10 Q. Mr. Hall, what happened to BillBoard Video, the  
11 company?

12 A. I sold the company to a real estate developer in  
13 California who wanted to develop the LED displays for  
14 his real estate developments around the world.

09:39AM 15 Q. And after you sold BillBoard Video, did you have any  
16 other experiences after that in the LED display  
17 business?

18 A. No. Primarily, I started Ultravision in 2000 --  
19 well, Ultravision LED in 2006 trying to develop the new  
09:40AM 20 LED display panel technology that I wanted to develop.  
21 I was trying to overcome any of the problems that we had  
22 had with the previous company and, again, lower the  
23 total cost of installation, lower the total cost of  
24 operation. So we started Ultravision LED in 2006.

09:40AM 25 Ultimately, we started Ultravision Technologies in 2010.

1 Q. You described earlier, with respect to the '904  
2 Patent, what I think you referred to as hot-swapping?

3 A. Yes.

4 Q. What are the advantages of hot-swapping in a  
09:41AM 5 commercial environment for the owner of a big billboard  
6 or a big display?

7 A. So, again, if you can think of a large LED display  
8 in Las Vegas or in Times Square, if the cabinet system  
9 would go down, typically you would have a whole section  
09:41AM 10 of the LED display that would go down. You would see --  
11 like, if you've ever been to a sports stadium, you might  
12 see a quarter of the display or half the display that  
13 goes out; that's usually -- fundamentally, you can tell  
14 that that's a cabinet system.

09:41AM 15 And they would have to -- you'd have to  
16 send in a technician to go in the back and open the  
17 doors and to try to determine why that cabinet system  
18 had gone down.

19 And so what we wanted to do was create these  
09:41AM 20 LED display panels, which I showed earlier, and they  
21 could be -- it could be detected if there was a problem  
22 with that LED display panel, and if that LED display  
23 panel went dark, you could go out there, you could send  
24 a normal technician from either the front or the rear to  
09:42AM 25 be able to pop out that display panel that might be

1 having a problem and put back in a new panel without  
2 turning off the whole display.

3 So it made maintenance of the display simple.  
4 I don't -- I used the word "simple," but much better  
09:42AM 5 than any of the maintenance that had to be done before  
6 on cabinets, much easier. It was also much easier for  
7 any normal skilled technician to be able to go out and  
8 change out these panels without having to turn off the  
9 whole display.

09:42AM 10 Q. Mr. Hall, you testified you started a new company,  
11 Ultravision LED, in 2006; is that right?

12 A. Yes, that's correct.

13 Q. And what facilities or capabilities did  
14 Ultravision LED have in 2006?

09:43AM 15 A. None to speak of when we first started the company.  
16 It was myself and, you know, we had consulting engineers  
17 as I hired them.

18 Q. Okay. How did you go about, after having started  
19 the company, producing and selling or attempting to sell  
09:43AM 20 LED display panels?

21 A. I went to China and started -- hired a consultant in  
22 China that started taking me around to all of the  
23 different manufacturers in China to try to pick a  
24 manufacturer to work with in China.

09:43AM 25 And there were several manufacturers that I

1 met that were fairly vocal about the funding they had  
2 received from the government for growing the company and  
3 so forth. I finally met a company in China,  
4 LianTronics, that actually the CEO spoke English, we got  
5 along very well, he seemed to understand what I wanted  
6 to do in the United States, so we started working with  
7 LianTronics.

09:44AM

8 Q. What did you ask LianTronics to do for you?

9 A. I told them my vision. At the time, they were  
10 creating cabinet displays, and I told them my vision of  
11 trying to create an LED display module and what I was  
12 trying to do to eliminate the cabinets and to lower the  
13 cost of installation and the cost of operation and  
14 create these modular LED display panels that could be  
15 used outside, IP65 rated, and could be serviced from the  
16 front or rear. So basically communicated what I was  
17 trying to accomplish.

09:44AM

09:44AM

18 Q. And what did LianTronics tell you they could do for  
19 you?

20 A. They told me they could help us get there. And so,  
21 you know, I made several trips to China over a period of  
22 a couple years to meet with LianTronics and I met with  
23 them and their engineers at the time and put the ideas  
24 up on the board and the drawings. We transferred  
25 drawings and e-mails backwards and forwards, and we

09:45AM

09:45AM

1 eventually paid them \$100,000 to create some molds for  
2 us to create the first LED display panel.

3 Q. And what is a mold?

09:45AM 4 A. A mold, at the time we were using aluminum instead  
5 of plastic. This is -- again, this is 2006, 2007. So  
6 this is before we had moved to plastic.

7 So we were creating a mold out of aluminum,  
8 and you have to pay to have that mold made. So they  
9 pour the aluminum, and the aluminum makes the panel  
09:46AM 10 mold, the outside panel mold to create the modular LED  
11 display panel.

12 Q. Did you tell them what size panel you wanted?

13 A. Yes. We were trying to create a one-foot by  
14 two-foot modular LED display panel; and the reason that  
09:46AM 15 was important is in the United States, almost every  
16 display is some factor in feet, 10 feet by 10 feet or  
17 10 feet by 20 or 14 by 48, so we were trying to create a  
18 one-foot by two-foot panel.

19 Q. Did LianTronics have a one-foot by two-foot  
09:46AM 20 ready-to-go mold for you or ready-to-go panel?

21 A. No. They had had a -- they had showed me at one  
22 time that they had sort of a failed, small LED  
23 aluminum -- it was just like an aluminum mold that they  
24 had showed me that was sort of this rusted-out mold.

09:47AM 25 And so I drew out what we wanted for them



1 and drew out what we wanted to get to for the one-foot  
2 by two-foot panel, and then we paid them for the mold to  
3 create this one-foot by two-foot panel.

09:47AM

4 Q. Now, during this process that you've described of  
5 going to China, the exchanging information, did they  
6 ever forward to you any drawings?

7 A. Absolutely. So when you pay manufacturers -- you  
8 know, we've had cable manufacturing done for us, you  
9 know, even the plastic molds with the current panel.

09:48AM

10 Whenever you are working with a manufacturer  
11 and you are paying them to create molds for you or  
12 create a product for you, they send you drawings  
13 backwards and forwards, and you have to approve those  
14 drawings before you start manufacturing the product.

09:48AM

15 Q. Let me show you, Mr. Hall, DTX-234. Is this one of  
16 the drawings that at some point in time LianTronics sent  
17 to you with respect to the shape for the mold for this  
18 housing?

19 A. Yes. It appears to be, yes.

09:48AM

20 Q. And did you have to approve it before you had it  
21 made?

22 A. Yes.

23 Q. And did you have to pay for it?

24 A. Yes. This is what we paid for.

09:48AM

25 Q. And is this what you told them to make for you,

1 Mr. Hall?

2 A. Yes.

3 Q. How long did it take to get an actual physical metal  
4 housing after you asked them, paid for that? How long  
5 did it take?

09:49AM

6 A. Oh, it was quite -- to build molds, you know, not  
7 just for this product but for any product, it's not an  
8 overnight thing. When you pay a company -- and we've  
9 even done, you know, aluminum molds for lights in

09:49AM

10 U.S. -- it's probably a six-month process after you pay  
11 the company to actually get the molds before you're able  
12 to start using them.

13 Q. Did you ever actually get a one-by-two housing, a  
14 metal housing?

09:49AM

15 A. Very close. It was in millimeters. But very close,  
16 yes, we did.

17 Q. What other types of requirements or information or  
18 details did you tell LianTronics you wanted in your new  
19 panel?

09:49AM

20 A. We -- what the ultimate goal was. We wanted the  
21 panels to be modular so they were interchangeable; we  
22 wanted them to be IP67 rated so they were sealed  
23 against -- they were waterproof and they were sealed and  
24 that you would be able to access them from both the  
25 front or the back to be able to do maintenance on them.

09:50AM

1 Q. Did you give them any information about the LEDs  
2 themselves or the pitches of the LEDs or any such  
3 information?

09:50AM

4 A. Absolutely. We called out what LEDs that we wanted  
5 to use, what power supplies we wanted to use, you know,  
6 every aspect of the panel. So when you go into this  
7 process, there are a hundred different LED manufacturers  
8 with different qualities of LEDs; there are many  
9 different power supply manufacturers and quality of  
10 power supplies. So we called all of that information  
11 out for LianTronics in the manufacturing.

09:50AM

12 Q. During that process, did LianTronics send any  
13 additional manufacturing drawings for your approval?

09:51AM

14 A. Oh, yeah. I mean, there were many, many different  
15 manufacturing drawings that came backwards and forwards  
16 for our approval.

09:51AM

17 And also when we went over there, I mean, there  
18 were tens of trips to China to go backwards and forwards  
19 and actually look at the product and look at the  
20 production and meet with them on the materials.

21 Q. Mr. Hall, who created the ideas and concepts and  
22 designs that are reflected in the drawings that you  
23 received from LianTronics?

09:51AM

24 A. I did. I mean, this was -- again, it was a wholly  
25 new and unique concept in the industry. Everyone was

1 using cabinets at the time.

2 Q. Mr. Hall, can you identify any individual at  
3 LianTronics who made any substantial contribution to any  
4 important aspect of what was reflected in those  
09:51AM 5 drawings?

6 A. No, sir.

7 Q. Mr. Hall, is there anyone at LianTronics that you  
8 can identify who made any type of a substantial  
9 contribution to any aspect of your inventions claimed in  
09:52AM 10 your patents that are in this lawsuit?

11 A. No, sir.

12 Q. What do you believe that LianTronics people  
13 conceived of or created with respect to your new panel?

14 A. I don't know anything that they conceived of. They  
09:52AM 15 acted as a manufacturer for us.

16 Q. Was there any individual that you can identify for  
17 the jury at LianTronics, during the years you were  
18 working for them -- with them, 2006, 2007, 2008, anyone  
19 you can identify who collaborated with you on the design  
09:52AM 20 of these panels?

21 A. No, sir.

22 Q. Do you know the LianTronics employee, who we've been  
23 told will appear in this case by video, whose name is  
24 Wei Wang?

09:53AM 25 A. No, sir.

1 Q. Have you ever heard of that individual before?

2 A. No, sir.

3 Q. Did you ever work with him, meet with him, talk to  
4 him?

09:53AM

5 A. No, sir.

6 Q. Have you ever heard of or do you know a different  
7 LianTronics employee, who we told will appear in this  
8 case as a witness by video, whose name is Qian Wang?

9 A. No, sir.

09:53AM

10 Q. Did you ever work with, talk to, have any dealings  
11 with Mr. Qian Wang?

12 A. No, sir.

13 Q. Was there anyone else from your Ultravision LED  
14 company who traveled to China to meet with LianTronics  
15 during those years?

09:53AM

16 A. Yes. We had -- Roger Van Houtan was an engineer. I  
17 don't think he's actually engineer. He's a technician  
18 that worked for us; and he worked for us at  
19 BillBoard Video and then I hired him at Ultravision, and  
20 he traveled to China with me.

09:53AM

21 Q. How many times did he go to China?

22 A. I don't recall exactly. Several times to China.

23 Q. Was he with you on your trips to China for every  
24 trip he went?

09:54AM

25 A. No, not in the first few trips, because I had to

1 narrow down which manufacturer we were going to work  
2 with first.

3 Q. How long did you work with LianTronics?

4 A. From 2006 to approximately 2009.

09:54AM

5 Q. During the period while you were developing the new  
6 panels and waiting for information and parts and  
7 prototypes, did you make any attempt at Ultravision LED  
8 to market this new product?

09:54AM

9 A. Absolutely. I mean, we thought that this was going  
10 to be a very unique product in the industry. We thought  
11 it solved a lot of problems, began lowering the cost of  
12 installation and operation. So we began trying to  
13 market and sell the product in the United States.

09:55AM

14 Q. And did you disseminate any marketing materials  
15 during that period of time?

16 A. Yes. We had a -- I had hired a sales and marketing  
17 manager who helped us produce all the marketing material  
18 and was helping us build sales.

09:55AM

19 Q. Did you ever actually receive completed panels from  
20 LianTronics?

09:55AM

21 A. Yes. We received our first batch of panels from  
22 LianTronics and, of course, we were very excited about  
23 them at the time. We had already started to sell them,  
24 and we received our first batch of LianTronics panels in  
25 the U.S.

1 Q. What did you call the new panel?

2 A. The UltraPanel. The original name was the  
3 UltraPanel.

09:56AM

4 Q. Did you ever actually sell and install an UltraPanel  
5 in the United States?

6 A. No. We --

7 Q. I'll ask you another question.

8 Did you ever actually install an  
9 Ultravision LED UltraPanel?

09:56AM

10 A. Yes. We installed the first one for the Episcopal  
11 School of Dallas in Dallas, and it was a high school  
12 that my daughter -- or junior high at the time, that my  
13 daughter attended. So we donated the display to the  
14 school to be able to test the display. It was the first  
15 time that the display had ever been put up. So we  
16 donated the display to the school with the agreement  
17 that we could use the display to show to customers and  
18 test the display, be able to test the display and make  
19 sure that everything worked.

09:56AM

20 THE COURT: Mr. Hall.

21 THE WITNESS: Yes, sir.

22 THE COURT: Counsel asked you: Did you ever  
23 install one of these?

24 THE WITNESS: I apologize.

09:57AM

25 THE COURT: You said yes. He didn't ask you

1 where or why. Now, he's perfectly capable of doing  
2 that, and he will gladly ask you why did you do it this  
3 way, why did you choose this place if he wants you to  
4 give added testimony. But you need to let him decide  
5 what you're going to testify about, not just take his  
6 question and then run with it wherever you want to.

09:57AM

7 I'm going to tell you one more time: Limit  
8 your answers to the questions asked. Mr. Fabricant is  
9 more than capable of asking all the follow-up questions  
10 he thinks are necessary to produce the testimony that  
11 the jury should hear, all right?

09:57AM

12 THE WITNESS: Yes, sir. Apologize.

13 THE COURT: All right, Mr. Fabricant. Let's  
14 continue.

09:57AM

15 MR. FABRICANT: Thank you, your Honor.

16 Q. The panel that you installed at the school, did you  
17 have experiences servicing and maintaining that panel?

18 A. Yes.

19 Q. How frequently did you service and maintain that  
20 panel?

09:57AM

21 A. It turned out that we had to service that panel  
22 almost on a weekly basis, every time they turned it on  
23 to operate the panel, the display for the high school.  
24 So on a weekly basis.

09:58AM

25 Q. Did you determine or your staff determine what the



1 problems were that required weekly repair or service of  
2 that panel?

3 A. Yeah. The panel started to leak and take on water.  
4 They were not IP65 or 67 rated, so they started to leak  
09:58AM 5 on take on water and shut down the system.

6 Q. Did you determine why these panels were leaking and  
7 taking on water?

8 A. They were made out of aluminum, and as the aluminum  
9 would heat up or swell up in the Texas heat, it would  
09:58AM 10 create gaps in the panel, and those gaps in the panel  
11 would allow water to get into the panels.

12 Q. I think you've testified pretty clearly that this  
13 panel was your design, correct?

14 A. Yes.

09:59AM 15 Q. So this was your failure?

16 A. Yes.

17 Q. Had you anticipated that these panels would expand  
18 when the temperatures got hot or the power supply got  
19 hot?

09:59AM 20 A. No, no.

21 Q. And what did you do to try to fix the panels?

22 A. We tried to come up with some way of being able to  
23 seal the panels, replace the seals in the back of the  
24 panel, tried everything. But at the end of the day, you  
09:59AM 25 couldn't control that aluminum expanding and contracting

1 and creating different areas where water could get into  
2 those panels.

3 Q. Now, putting aside the panel at the high school  
4 which you testified was installed, were there any other  
5 installations in the United States?

10:00AM

6 A. We did a trial installation for Clear Channel and we  
7 did a trial installation for them, but it was not  
8 accepted by Clear Channel. So that was the only  
9 installation, at the high school.

10:00AM

10 Q. Was that display a test or was it actually an  
11 installation on a building or a highway?

12 A. It was just a -- it was just a test for Clear  
13 Channel.

10:00AM

14 Q. Let me show you, Mr. Hall, DTX-417. If you can go  
15 to Page 11, please. Now, on Page 11 of 417, first let  
16 me ask you again: What type of document is this,  
17 Mr. Hall?

18 A. This is a sales presentation that we were making to  
19 try to sell this product.

10:01AM

20 Q. And is that a sample of the product on the right in  
21 the picture?

22 A. Yes.

23 Q. That's the sample made by LianTronics?

24 A. Yes, sir.

10:01AM

25 Q. And in this document, it states: Weather is number

1 one culprit for LED displays.

2 Do you agree with that statement?

3 A. Yes.

4 Q. Then it states: IP67-rated waterproofing is  
10:01AM 5 surpassed only by equipment designed to operate  
6 completely underwater. Each panel is completely  
7 waterproofed against submersion in up to 3 feet of  
8 water.

9 Is that an accurate statement with respect to  
10:01AM 10 the panels, the UltraPanel?

11 A. That was our goal, but the panels did not meet that  
12 standard.

13 Q. Why did you make the statement in these marketing  
14 materials that it was IP67?

10:01AM 15 A. It was the goal in designing the panels. It was  
16 actually supposedly tested by the Chin- -- the  
17 manufacturer that we were using in China, and that was  
18 the goal of these panels, but ultimately did not meet  
19 the requirement.

10:02AM 20 Q. Did the manufacturer LianTronics represent to you in  
21 writing that the panels were IP67?

22 A. Yes.

23 Q. Did you rely on those representations?

24 A. Yes.

10:02AM 25 Q. And what ultimately happened after the installation

1 at the school? What happened to Ultravision LED, the  
2 company?

10:02AM

3 A. We hit a very difficult time in 2008, 2009, which  
4 was a recession, and I was starting to essentially run  
5 out of funding to be able to continue to develop the  
6 product, and we had a product that didn't work and I  
7 closed the company in, I believe 2009, closed  
8 Ultravision LED.

10:03AM

9 Q. Were there any other factors that impacted the  
10 business at that time?

10:03AM

11 A. At the very end of the company, we had found out  
12 that our VP of sales and our VP of operations had  
13 started a separate company using all of our information  
14 and then had actually started redirecting sales that  
15 were coming to the company to their new separate  
16 company, and it certainly hurt.

17 Q. What was the name of those individuals?

18 A. Ryan Bachman and Roger Van Houtan, and they started  
19 a company called Green Group Media.

10:03AM

20 Q. After Ultravision LED closed, what did you do next?

10:03AM

21 A. I went back to the drawing board and tried to figure  
22 out the right way to make these panels and the right way  
23 to overcome all the problems that we had had with the  
24 aluminum panel and still accomplish what I had set out  
25 to do of eliminating the cabinets.

1 Q. And did you ever start up a new company?

2 A. Started Ultravision Technologies in 2010, and we  
3 worked on the development of the LED display panels  
4 from -- and the outdoor LED lights from 2010 through  
5 2013. So about three years in development.

10:04AM

6 Q. Now, in trying to do that development, did you have  
7 a factory?

8 A. No.

9 Q. Did you have your own production facility?

10:04AM

10 A. No.

11 Q. Did you have any ability to manufacture your own  
12 product here in the United States?

13 A. No, sir.

14 Q. So what did you do?

10:04AM

15 A. I went back to China and started looking and  
16 interviewing other manufacturers other than LianTronics  
17 and ended up finding a company by the name of -- sir, I  
18 don't know how else to say this -- their company name  
19 was Shenzhen Only. That was the name of the company.

10:05AM

20 And we did a contract with that company.

21 Q. Was there a reason why you -- was there a place in  
22 the world where most of the LED display panels were  
23 being made at the time?

24 A. Yes. There are many different manufacturers in

10:05AM

25 Shenzhen; so when you would go there, you could go to

1 all the different manufacturers and see. Many of them  
2 were relatively the same, but you could actually meet  
3 with the manufacturers and try to see the differences in  
4 quality and manufacturing capabilities.

10:05AM

5 Q. But is that why you went there to get your products  
6 manufactured, because pretty much that was the place to  
7 go?

8 A. Yes.

10:05AM

9 Q. Let me show you DTX-368, please. Can you identify  
10 this exhibit, Mr. Hall?

11 A. Yes. This is the agreement that we signed with  
12 Shenzhen Only.

13 Q. And when did you enter into this agreement? It's  
14 indicated, I think at the top.

10:06AM

15 A. November 21st, 2013.

16 MR. FABRICANT: And there is a paragraph, if we  
17 could go down, that's entitled, "New technology  
18 products." And you could highlight that paragraph,  
19 Mr. Thompson.

10:06AM

20 Q. Why was this "new technology products" description  
21 and definition put into the contract, Mr. Hall?

22 A. Because I wanted to make it very, very clear at the  
23 time that any product that they were manufacturing for  
24 us under our design was our technology, so we -- because  
25 they had other LED displays that they were

10:06AM

1 manufacturing. So when we went into this agreement, I  
2 wanted to try to make it very clear that our designs,  
3 our drawings, our ideas were ours, and so we called it  
4 "New technology product" in the contract.

10:07AM

5 Q. The words here, "panels of approximately 304.8  
6 millimeter by 609.6 millimeter," is that approximately  
7 1.2?

8 A. Yes, sir.

10:07AM

9 Q. So in the U.S., you wanted 1 by 2, but in China,  
10 they use millimeters?

11 A. Yes, sir, that's correct.

12 Q. And then it states, "the specifications and  
13 technical information for which Ultravision provided  
14 Supplier under a separate agreement."

10:07AM

15 Had you actually -- is this an accurate  
16 statement? Had you provided specifications and  
17 technical information to Shenzhen Only in connection  
18 with this agreement?

19 A. Yes, absolutely.

10:07AM

20 Q. And then it continues: "And any new models or  
21 updates of such products; or any other panel the  
22 specifications for which are provided to Supplier by  
23 Ultravision."

10:08AM

24 Was that your understanding, that that  
25 language was in this contract and signed by both

1 parties?

2 A. Yes.

3 Q. And was this contract actually signed by  
4 Shenzhen Only and entered into?

10:08AM 5 A. Yes.

6 Q. If we could go to Page 13 of this exhibit. Do you  
7 recognize this as the signature page of the contract?

8 A. Yes.

9 Q. And who is the individual on the left? Do you know?

10:08AM 10 A. The managing director. It was essentially the CEO  
11 of the company.

12 Q. And after entering into this contract --

13 MR. FABRICANT: You can take it down,  
14 Mr. Thompson.

10:08AM 15 Q. -- did the company in China start actually making  
16 any of these new panels for Ultravision?

17 A. Yes, absolutely.

18 Q. And approximately when did they start to manufacture  
19 the new technology products?

10:09AM 20 A. Well, we started working with them on the  
21 manufacturing shortly after this contract. There were  
22 drawings that went backwards and forwards and e-mails  
23 and approvals, and they started manufacturing right away  
24 for us.

10:09AM 25 Q. Now, we had seen earlier in your testimony today



1 that you had received some drawings from the LianTronics  
2 company. Did Shenzhen Only also send you manufacturer  
3 drawings throughout this process?

4 A. Yes, absolutely.

10:09AM

5 Q. And did they send them to you for your approval?

6 A. Yes.

7 Q. And did they incorporate what you had given to them  
8 in the details and technical specifications?

9 A. Yes.

10:09AM

10 Q. Separate and apart from Shenzhen Only, did you go  
11 out and hire any other engineering firms to help you lay  
12 out drawings for the product?

13 A. Yes. We hired a firm in New York by the name -- I  
14 think it was the Lewis engineering firm -- I think it's  
15 RSL Engineering -- to help us with the design of the  
16 product. And we also hired an engineering firm in  
17 Chicago -- I believe it was GSW in Chicago -- to help us  
18 with all of the engineering and structural drawings of  
19 the panels and so forth.

10:10AM

20 Q. Did you name as an inventor the New York firm that  
21 helped put out drawings for you?

22 A. No.

23 Q. Why not?

24 A. They weren't an inventor. We went to them and we

10:10AM

25 explained what we were trying to accomplish and we asked

1 them to do the drawings for us, and we did the same with  
2 the firm in Chicago. We also had other firms that we  
3 did for cabling and, you know, the cable companies would  
4 submit drawings to us and we would approve cables.

10:11AM

5 And, you know, every aspect of those panels,  
6 whether it was GSW or RSL or Shenzhen Only or the cable  
7 manufacturers, we were always going through and  
8 approving the drawings.

10:11AM

9 Q. Mr. Hall, the contract we saw a few moments ago you  
10 identified, it was dated November 21, 2013, correct?

11 A. Yes.

12 Q. And we saw earlier today from your testimony that  
13 your provisional patent application, first patent  
14 application on this technology was filed December 31,  
15 2013, correct?

10:11AM

16 A. Yes.

17 Q. So there was only a month between the time you  
18 signed with Shenzhen Only and you had a patent  
19 application in; isn't that right?

10:11AM

20 A. That's correct.

21 Q. Whatever drawings that Shenzhen Only sent to you  
22 over the time they were your manufacturer, did you  
23 provide all those drawings to your patent lawyers, that  
24 Slater Matsil firm?

10:12AM

25 A. Yes. We provided them all the drawings from

1 Shenzhen Only, the two engineering firms that we had  
2 hired, the consulting engineers that we had hired, the  
3 drawings from the cable manufacturer. Any and all  
4 information that we had on the panels we supplied to  
5 Slater Matsil for the applications.

10:12AM

6 Q. Mr. Hall, could you please pick up Exhibit 915,  
7 DTX-915, which is the V-series panel, I believe.

8 A. (Complies.)

9 Q. And could you show the jury the back of the V-series  
10 panel.

10:12AM

11 A. (Complies.)

12 Q. And was this the V-series panel that was  
13 manufactured by Shenzhen Only?

14 A. Yes. This is the first one that was manufactured by  
15 Shenzhen Only.

10:12AM

16 Q. First generation?

17 A. Yes, first generation.

18 Q. And was it plastic?

19 A. It was plastic. It was all plastic.

10:13AM

20 Q. Is it lightweight?

21 A. Very lightweight, modular.

22 Q. Could it be installed on one of those frames right  
23 up against the wall?

24 A. Absolutely, yes.

10:13AM

25 Q. Could it be serviced from the front?

1 A. Yes. Front or rear.

2 Q. You can put the panel down?

3 THE COURT: Let me interject at this moment.

4 Ladies and gentlemen, we're going to take a

10:13AM

5 brief recess at this time. If you'll simply close and

6 leave your notebooks in your chairs, we'll be back in

7 here shortly to continue with Plaintiff's direct

8 examination of Mr. Hall.

9 Follow all my instructions, please, including

10:13AM

10 not to discuss the case with each other, and we'll be

11 back shortly to continue.

12 The jury's excused for recess.

13 (Whereupon, the jurors exit the courtroom.)

14 THE COURT: The Court stands in recess.

10:14AM

15 (Recess from 10:14 a.m. to 10:35 a.m.)

16 THE COURT: Mr. Hall, if you'll return to the  
17 witness stand, please.

18 THE WITNESS: Yes, sir.

19 THE COURT: Mr. Fabricant, you may return to  
20 the podium.

10:35AM

21 MR. FABRICANT: Thank you, your Honor.

22 THE COURT: What's the best estimate of the  
23 remainder of your direct time-wise?

24 MR. FABRICANT: Thirty minutes, your Honor.

10:36AM

25 THE COURT: All right. Let's bring in the

1 jury, please.

2 (Whereupon, the jurors enter the courtroom.)

3 THE COURT: Please be seated.

4 Continue with direct examination of the

10:36AM

5 witness.

6 Mr. Fabricant, you may proceed.

7 MR. FABRICANT: Thank you, your Honor.

8 Q. Mr. Hall, once the manufacture of the V-series panel

9 commenced -- and you showed the jury the V-series

10:36AM

10 panel -- did that solve all of your problems?

11 A. No, sir.

12 Q. What were the remaining issues, sir?

13 A. Can I hold up the panel?

14 Q. Yes.

10:37AM

15 A. We still had a problem in that there were vents with

16 fans in the bottom of the panel -- the portion of the

17 panel that held the power supply; so when it rained,

18 there was still the ability for water to get into the

19 panel. So although it was lightweight, it was plastic,

10:37AM

20 it was modular, it still wasn't IP65 rated.

21 Q. Did you experience any problems, any issues in the

22 field when you installed these V-series panels?

23 A. Yes, quite a bit. When it would rain, the rain

24 would come down over the back of the panels and get into

10:37AM

25 those vents with the fans, and so it would create

1 different outages and different problems with panels  
2 because rain was getting into the panels.

3 Q. Did you do anything to attempt to improve your  
4 design of these?

10:38AM 5 A. Yeah. The next generation of the panel, we removed  
6 the fans and we tried to go to a completely sealed back  
7 system, but in the end, the panels had vents in them, no  
8 fans, but vents.

9 Q. Mr. Hall, can you show the jury DTX-917, which I  
10:38AM 10 believe is the M-series?

11 A. Yes. This is the next generation, or the M-series.

12 Q. And that big lump that was on the back of the  
13 V-series, which was the power supply with the fans and  
14 vents, that's gone now?

10:39AM 15 A. Yeah. The power supply's within the cavity, in the  
16 back.

17 Q. And did this generation solve all of your problems,  
18 Mr. Hall?

19 A. No. Although we had eliminated the fans, it still  
10:39AM 20 had vents in it for cooling to try to keep the inside of  
21 the panel cool. So it still was not IP65 or IP67 rated.

22 Q. Thank you. In the end, what experience did you have  
23 with your installation of the V and M-series panels that  
24 have been made by Shenzhen Only after you installed  
10:39AM 25 them?

1 A. We achieved half of our -- I don't want to say half.  
2 We achieved some of our goals. They were plastic; they  
3 were lightweight; we eliminated the cabinet; we were  
4 able to stack up the displays; we were able to eliminate  
5 the room in the back, but we had not achieved the IP65  
6 or IP67 rating. So we still had maintenance problems in  
7 the field because there was water ingress.

10:40AM

8 Q. Did you incur any expenses in repairing panels that  
9 had to be fixed because they leaked water? And by  
10 "panels," I'm referring to the V-series and the  
11 M-series.

10:40AM

12 A. Yes. We had to create a warranty maintenance  
13 program in Dallas. We had 1.8 to \$2 million worth of  
14 warranty maintenance repairs just to keep the panels  
15 maintained because we had water ingress into the panels.

10:40AM

16 Q. Mr. Hall, did any person that you can identify from  
17 the Shenzhen Only company create or conceive of any of  
18 the elements that you claim in the three asserted  
19 patents in this lawsuit?

10:41AM

20 A. No.

21 Q. Did any person that you can identify from the  
22 Shenzhen Only company collaborate with you in any way on  
23 any significant portion of your claimed inventions?

24 A. No.

10:41AM

25 Q. Who first came up with the concept for using plastic

1 in a modular display panel?

2 A. I did. After our problems that we had with the  
3 aluminum panel in Ultravision LED, when we had expansion  
4 of the aluminum, so I wanted to use plastic.

10:41AM

5 MR. FABRICANT: I'd like to show the witness  
6 DTX-435, please. Second.

7 Q. Can you identify this as a communication that you  
8 had with Shenzhen Only?

9 A. Yes.

10:42AM

10 Q. And it's dated January 11 of 2014; is that correct?

11 A. Yes.

12 Q. And what was the subject matter of this  
13 communication, Mr. Hall?

14 A. We had a specific customer in Times Square that  
15 already had started a project, and they wanted aluminum  
16 panels. So they were very specific about wanting  
17 aluminum panels.

10:42AM

18 Q. And did you ever indicate to Shenzhen Only, the  
19 factory, that you didn't want plastic on any panel that  
20 they manufactured for you?

10:42AM

21 A. No.

22 Q. Was this communication intended by you to tell them,  
23 "Do not make plastic panels"?

24 A. No. This is for a specific project that we had in  
25 Times Square.

10:42AM



1 Q. During the time that you were doing business with  
2 the Shenzhen Only company, did you have an employee by  
3 the name of Tara Brooks, I believe her name is?

4 A. Thanh Brooks, yes.

10:43AM

5 Q. And what was her role with the company?

6 A. She was with us for about five months, and we had  
7 hired her as an engineer to start assembling displays  
8 for us.

9 Q. Did she ever travel to China on any trip?

10:43AM

10 A. No.

11 Q. Did she ever visit Shenzhen Only, to your knowledge?

12 A. No.

13 Q. Was she involved in any way with the design of the  
14 new technology products?

10:43AM

15 A. No.

16 Q. Now, I've been told that she may appear as a witness  
17 in this case by video testimony, and I believe she  
18 testified that she worked at your company for quite a  
19 lengthy period of time. Is that accurate?

10:44AM

20 A. No. She was with us from March of, I believe 2014  
21 to August of 2014. So about five months.

22 Q. And ultimately why did she leave the company?

23 A. We let her go because it was just the wrong fit.

24 She was an industrial engineer. Nice woman, but

10:44AM

25 industrial engineer and we needed an electrical

1 engineer. So we hired a gentleman by the name of  
2 Matt Foster, an electrical engineer.

10:44AM

3 Q. What did you do after the V-series and the M-series  
4 panels were manufactured for you by Shenzhen Only? What  
5 was your next step in developing your products?

6 A. Just -- we continued to learn with the difficulties  
7 that we had had, trial and error over all the products,  
8 and we developed the final Master Plus Series and we  
9 moved all of our manufacturing to Dallas, Texas.

10:45AM

10 MR. FABRICANT: Please show the witness  
11 PTX-1670.

12 Q. And what is 1670, Mr. Hall?

13 A. It's a photo of our warehouse in Dallas and some of  
14 the employees that we had working on the assembly line.

10:45AM

15 Q. And at this point in time, which I think is August  
16 of 2018, was the factory up and operating?

17 A. Yeah. We had, you know, close to 100 employees,  
18 less than 100 employees but growing every day. We had  
19 assembly lines for the outdoor LED lights and then

10:46AM

20 assembly lines for the LED display panels.

21 Q. Can you tell, in this particular picture, what these  
22 employees are working on?

23 A. Yeah, they seem to be holding up one of our LED --  
24 outdoor LED lights. Yeah, that says: Billboard light  
25 assembly line.

10:46AM

1 MR. FABRICANT: Thank you. You can take that  
2 down.

3 Q. Mr. Hall, do you have an understanding, when you  
4 receive a United States patent, for what period of time  
5 you have protection?

10:46AM

6 A. Up to 20 years.

7 Q. And what is your understanding as to what protection  
8 the government actually gives you during that 20-year  
9 period?

10:46AM

10 A. It's my understanding that it's to protect the  
11 technology so that other competitors cannot copy or  
12 manufacture the technology.

13 Q. Does it give you any rights with respect to other  
14 people selling your technology?

10:47AM

15 A. Yes. It should give us rights to protect us so that  
16 other people or other companies cannot sell our  
17 technology.

18 Q. Who owns the asserted patents today?

19 A. They are owned by Ultravision Technologies.

10:47AM

20 Q. And are you the owner of Ultravision Technologies  
21 today?

22 A. Yes.

23 Q. Now, do you believe that any of your products that  
24 you manufacture and sell are covered by your asserted  
25 patents?

10:47AM

1 A. Yes. I believe the products that we manufactured in  
2 the United States were covered by our patents and -- our  
3 patents, yes.

10:48AM

4 Q. Does your company have a practice or a policy for  
5 placing the patent numbers that you receive when you get  
6 the patent on the patented products?

7 A. Yes.

8 Q. What is that practice or policy, sir?

9 A. Can I hold one of these panels up?

10:48AM

10 Q. Yes, you may.

11 A. We actually put a sticker on the back of the panel  
12 that references -- because we have so many patents, it  
13 references the website where you can access all of the  
14 patents. So there's a URL there where you can go and  
15 access the patents and see all the patents on the web  
16 site.

10:48AM

17 Q. Does the sticker actually say you have patents; go  
18 to the website and look? Does it say that?

19 A. Yes.

10:49AM

20 Q. What does it say?

21 A. "The product is protected by patents listed at,"  
22 then it has the www URL.

23 Q. And do you maintain a website with web pages that  
24 keep track of all of these patents and which products  
25 they cover as they issue?

10:49AM

1 A. Yes.

2 Q. And what is your policy or practice for updating  
3 that website?

4 A. It's updated as soon as we receive patent  
10:49AM 5 notification; but we use an outside company for the web  
6 design and the web service, so we give them the  
7 information and they update it for us.

8 Q. I'd like to show you, Mr. Hall, PTX-1677. And what  
9 is this, Mr. Hall?

10:49AM 10 A. It appears to be -- it looks like a copy from our  
11 web page that describes the company and the patents.  
12 There's a paragraph about patents.

13 Q. Down at the bottom -- I realize it's not that easy  
14 to read in the little, tiny print -- it says -- up a  
10:50AM 15 little higher -- I believe January 5, 2019. Is that the  
16 date when this, these pages, appeared on your website?

17 A. Yes, that appears to be the date on the document.

18 Q. And as of this date, this snapshot, I wanted to ask  
19 you a specific question about the '294 Patent.

10:50AM 20 A. Okay.

21 Q. Can you tell me from the pages on the website  
22 whether, as of January 5, 2019, the '294 Patent had been  
23 updated and included as the covered patents?

24 A. I cannot tell by this page, but I believe it was  
10:51AM 25 updated. I cannot tell by this page.

1 MR. FABRICANT: Can we scroll down,  
2 Mr. Thompson if you'd continue to scroll.

10:52AM

3 Q. Give me one second, Mr. Hall. I'll try to direct  
4 you to it. Right there, if you could -- let me see if  
5 that's the correct version.

6 MR. FABRICANT: If you could scroll to at the  
7 bottom -- I don't believe these pages are numbered. I'm  
8 sorry, Mr. Thompson. Looks like the ninth page, at the  
9 bottom of the page.

10:52AM

10 Q. The '294 Patent, which issued on May 22, 2018, is  
11 that found on your website, updated as of  
12 January 5, 2019?

13 A. Yes.

10:53AM

14 Q. Mr. Hall, between the date of May 22, 2018, and  
15 January 5, 2019, that five- or six-month period, were  
16 there any sales in the United States of the Master Plus  
17 or Brilliant series which was covered by the  
18 '294 Patent?

19 A. No, not in the United States.

10:53AM

20 Q. Mr. Hall, what is it that you are seeking from Absen  
21 in this lawsuit?

22 A. That they would pay reasonable royalties for the use  
23 of the technology in the patents.

10:53AM

24 Q. Do you have an understanding as to when the patents  
25 expire?

1 A. Twenty years from the date of the issuance of the  
2 patents.

3 Q. From the issuance or the filing?

4 A. The filing, excuse me.

10:53AM 5 Q. Is that 2034?

6 A. 2034, yes.

7 Q. What type of royalty are you seeking?

8 A. We're seeking a royalty of 8 percent as a royalty  
9 over the sales of the products.

10:54AM 10 Q. Did you determine that royalty rate?

11 A. No, sir. We cited several license agreements.

12 Q. Well, is there an expert witness who is going to  
13 testify about your royalty?

14 A. Yes.

10:54AM 15 Q. What's his name?

16 A. Tom --

17 Q. Stephen Dell?

18 A. Stephen Dell. Excuse me.

19 Q. And you testified that you have done other licenses  
10:54AM 20 with respect to the technology?

21 A. Yes.

22 Q. All right. Let me show you PTX-034. And this is a  
23 license with a company called Lamar. Did you enter into  
24 this agreement?

10:54AM 25 A. Yes.

1 Q. And what do you recall about the agreement with  
2 Lamar?

10:55AM

3 A. Lamar is an outdoor advertising company, and they  
4 have billboards around the United States, and they came  
5 to us and requested a patent -- excuse me, a license  
6 agreement for the operation of the billboards, their  
7 digital billboards throughout the United States.

8 Q. And how much did they pay you?

10:55AM

9 A. They paid us approximately \$5 million for the  
10 license of the patents.

11 Q. And was it limited to a certain number of years as  
12 opposed to the entire life of the patent?

10:55AM

13 A. Yes. It was limited to, I believe it's seven years.  
14 I'd have to go back and look at the years, but it has a  
15 limitation on it.

16 Q. Let me show you Plaintiff's Exhibit 36. Did you  
17 enter into an amendment of the license agreement where  
18 they extended their time?

19 A. Yes.

10:56AM

20 Q. And did they pay you additional money for that?

21 A. Yes, they paid us additional money to extend the  
22 time of the license agreement.

23 Q. Any other licenses you entered into, Mr. Hall, with  
24 respect to the technology?

10:56AM

25 A. Yes. We licensed Samsung, and then we also licensed



1 NEC as a company, and then we also -- on the outdoor  
2 lights, we have licensed a company called LTI. We've  
3 cited several license agreements.

10:56AM

4 Q. Do you recall -- let me show you PTX-2613. Is this  
5 a license with Samsung that you are referring to?

6 A. Yes.

7 Q. And did they pay you approximately \$2 million?

8 A. Yes, they did.

10:57AM

9 Q. And you referred to a license with NEC; is that  
10 right?

11 A. That's correct.

12 MR. FABRICANT: Could you show the witness  
13 Plaintiff PTX-040.

14 Q. Is this the license with NEC?

10:57AM

15 A. Yes.

16 Q. And is that -- they paid you approximately  
17 \$2 million for a license to the modular display  
18 technology?

19 A. Yes.

10:57AM

20 Q. And did you license a company by the name of RMG?

21 A. Yes.

22 Q. And are they a U.S. company?

23 A. Yes, they are a U.S. company.

24 Q. Where were they located?

10:57AM

25 A. They're located in Dallas, Texas.

1 Q. Did they agree to pay you a running royalty?

2 A. Yes. They agreed to pay us a running royalty of  
3 6 percent.

4 MR. FABRICANT: And if you'd show the witness  
10:57AM 5 PTX-038.

6 Q. Is this the agreement with RMG?

7 A. Yes, it is.

8 Q. And that 6 percent running royalty, were they only  
9 licensing one patent as opposed to multiple patents in  
10:58AM 10 this license?

11 A. Yes, they only licensed one patent for outdoor use.

12 Q. And you mentioned a company by the name of LTI; is  
13 that right?

14 A. Yes, yes, sir.

10:58AM 15 Q. Did you license LTI?

16 A. Yes, sir.

17 Q. And what kind of royalty rate did LTI agree to pay?  
18 Do you know?

19 A. They agreed to pay 8 percent royalty.

10:58AM 20 Q. And at the time of the agreement with LTI, were you  
21 in any litigation with LTI?

22 A. No.

23 Q. Have you ever sued LTI?

24 A. Yes, we did. We sued LTI, and that was an agreement  
10:58AM 25 from that lawsuit.

1 Q. What was the -- let me show you PTX-043. And is  
2 this the agreement with LTI which sets forth the  
3 8 percent royalty rate?

4 A. Yes.

10:59AM

5 Q. I'd like to show you, Mr. Hall, PTX-0665. Mr. Hall,  
6 can you identify this document?

7 A. Yes. This appears to be one of our sales and  
8 marketing documents.

10:59AM

9 Q. Was this prepared in the ordinary course of your  
10 business at Ultravision?

11 A. Yes.

12 Q. And was it your ordinary business to prepare such  
13 documents?

14 A. Yes.

10:59AM

15 Q. And did you maintain these documents in your files  
16 at Ultravision?

17 A. Yes.

10:59AM

18 MR. FABRICANT: Your Honor, we would move for  
19 the admission of PTX-665 which was admitted upon the  
20 condition of a foundation being laid.

21 THE COURT: Is there objection?

22 MR. MCCARTHY: No, your Honor.

23 THE COURT: It will be admitted. The condition  
24 has been met. Please proceed.

11:00AM

25 MR. FABRICANT: Your Honor, there's also

1 PTX-667 and 668, which were also conditionally admitted  
2 based upon a foundation. I'm happy to lay the  
3 foundation unless Absen is willing to waive the  
4 objection, your Honor.

11:00AM

5 THE COURT: Well, I assume that question's  
6 addressed more to you, Mr. McCarthy, than me. Do you  
7 want him to lay the foundation, or do you want to --

8 MR. McCARTHY: To speed things along, your  
9 Honor, I think we can go ahead and waive the objection.

11:00AM

10 THE COURT: All right. Then those two  
11 additional exhibits as identified are admitted.

12 MR. FABRICANT: Thank you, your Honor.

13 Your Honor, we pass the witness.

14 THE COURT: All right. Cross-examination by  
15 the defendants.

11:00AM

16 If there are binders to distribute, let's do  
17 that now. Deliver it to the CSO, please.

18 All right. Mr. McCarthy, you may proceed with  
19 cross-examination.

11:01AM

20 MR. McCARTHY: Thank you, your Honor.

21 CROSS-EXAMINATION

22 BY MR. McCARTHY:

23 Q. Good morning, Mr. Hall.

24 A. Good morning.

11:02AM

25 Q. It's good to see you again.

1 A. Good to see you.

2 Q. I just want to start back over and let's start from  
3 the beginning. You said you started college at USC in  
4 1982; is that right?

11:02AM 5 A. Yes.

6 Q. And you were there for two years?

7 A. Approximately.

8 Q. And in approximately 1984, you went into business  
9 with your dad, correct?

11:02AM 10 A. That's correct.

11 Q. You dropped out of USC, right?

12 A. Yes. Continued some classes, yes.

13 Q. And then you were in business with your dad for  
14 about two years from 1984 to 1986; is that right?

11:02AM 15 A. I think. I don't remember the exact dates, but  
16 there were several years that I was in business with --  
17 it was my father and my uncle who started the business.

18 Q. And then you decided to give college another go and  
19 you went back to Pepperdine this time, right?

11:02AM 20 A. At -- yes.

21 Q. And you were at Pepperdine for another two years; is  
22 that right?

23 A. I don't remember the exact time. It was -- they  
24 were sort of night courses.

11:03AM 25 Q. But you didn't graduate from Pepperdine either; is

1 that right?

2 A. No, sir.

3 Q. And I think Mr. Fabricant asked you, you didn't take  
4 any engineering classes at either USC or Pepperdine,  
11:03AM 5 right?

6 A. No, sir.

7 Q. You didn't take any formal technology classes; is  
8 that right?

9 A. No, sir.

11:03AM 10 Q. You didn't take any science classes, right?

11 A. No.

12 Q. You also --

13 A. Go ahead, sir.

14 Q. You didn't take any formal product design classes;  
11:03AM 15 is that right?

16 A. No, sir.

17 Q. And then when you left Pepperdine, you went back to  
18 work with your dad; is that right?

19 A. There was never, ever any leaving. I was doing  
11:03AM 20 Pepperdine while I was working.

21 Q. Got it. So while you left Pepperdine, you stayed on  
22 working with your dad and your uncle; is that fair?

23 A. Yes. We continued to operate the company and grow  
24 the company.

11:03AM 25 Q. And the name of that company was Hallmark Petroleum;

1 is that right?

2 A. Yes.

3 Q. Then at Hallmark Petroleum, you and your dad were  
4 doing underground fuelage tank testing; is that right?

11:04AM

5 A. Yeah. We started out doing the tank testing to test  
6 to see if they had leaks, and eventually the company  
7 grew to where if the tank had a leak, we would replace  
8 the tanks for the oil companies.

11:04AM

9 Q. Got it. But that business didn't have anything to  
10 do with LEDs, fair?

11 A. That's correct.

12 Q. After you left Hallmark Petroleum, you did more work  
13 with gas stations, including with companies named  
14 Texas Tanks and Hallmark Industries; is that right?

11:04AM

15 A. That was -- those were the companies that were set  
16 up for the aboveground storage tank patents and the  
17 manufacturing of the aboveground storage tanks.

18 Q. So at those companies, you were doing aboveground  
19 fuel tanks; is that fair?

11:04AM

20 A. That's correct, yes.

21 Q. And is it fair to say that your work with  
22 aboveground fuel tanks ended in 1995?

23 A. I think it was a little bit later than that, but  
24 yes.

11:05AM

25 Q. So mid-'90s, you stopped working with fuel tanks; is

1 that fair?

2 A. That's fair.

3 Q. And around 1995, 1996 is when you started working  
4 with a company called Nexus Fuels, right?

11:05AM 5 A. Yes.

6 Q. And at Nexus Fuels, you installed gas stations in  
7 front of grocery stores, I believe you said, right?

8 A. Yeah. I had a concept of putting gas stations in  
9 front of grocery stores.

11:05AM 10 Q. Got it. But at that time, you also weren't doing  
11 anything with LED displays, right?

12 A. No.

13 Q. In 1999, so right before 2000, you decided it was  
14 best to sell Nexus Fuels; is that fair?

11:05AM 15 A. That is correct.

16 Q. And at that time, you transitioned to  
17 BillBoard Video, right?

18 A. That is correct, yes.

19 Q. And the initial plan, I think you said, for

11:05AM 20 BillBoard Video was to install little LCD screens on gas  
21 pumps, right?

22 A. It also displays at the gas station or inside of the  
23 grocery store, so it was to try to do display  
24 advertising in grocery stores and gas stations.

11:06AM 25 Q. Got it. But the initial design was to use LCD



1 screens, right?

2 A. Very quickly, we had to go to LED displays because  
3 you could not see the LCD screens inside of a grocery  
4 store or outside at a gasoline station.

11:06AM

5 Q. Got it. So once you realized that the LCD screens  
6 in the grocery stores were too dark to see, you  
7 transitioned into LED displays, fair?

8 A. Yes. Yes, that's correct.

11:06AM

9 Q. Is it also fair to say that after three years at  
10 BillBoard Video in 2002, you had to lay everybody off?

11 A. I don't recall laying everybody off in 2002.

12 THE COURT: Do you need a moment, counsel?

13 MR. McCARTHY: No, your Honor.

14 THE COURT: Then let's move along.

11:07AM

15 Q. So I believe that you previously told me that you  
16 had to lay off all employees in 2002, but let me  
17 transition.

18 THE COURT: Wait a minute.

19 MR. McCARTHY: Sorry, your Honor.

11:07AM

20 THE COURT: That kind of a sidebar comment in  
21 the presence of the jury is not appropriate. If you  
22 want to ask a question, ask a question, but don't make a  
23 statement.

24 MR. McCARTHY: Appreciate it.

11:07AM

25 THE COURT: You're here to ask questions; he's

1 here to answer questions. Let's proceed on that basis.

2 MR. McCARTHY: Thank you, your Honor.

3 Q. Now, throughout your time at BillBoard Video, you  
4 eventually transitioned into doing outdoor LED displays;  
11:07AM 5 is that right?

6 A. That's correct.

7 Q. And you were sourcing those screens from China; is  
8 that fair?

9 A. No, that's -- that's not correct. We had a

11:08AM 10 manufacturing facility in Sacramento, California, and we  
11 did all the assembly in Sacramento, California.

12 Q. And what was the name of that manufacturing  
13 facility?

14 A. It was BillBoard Video. We had acquired a smaller  
11:08AM 15 company, MultiMedia, and we continued to grow the  
16 company and did the assembling in Sacramento.

17 Q. You weren't doing actual display design at  
18 BillBoard Video; is that right?

19 A. Yeah. We had a team of engineers that would -- we  
11:08AM 20 had a floor of engineers because every installation that  
21 we did was completely custom and unique. When we did a  
22 JPMorgan Chase sign or the display in Times Square, the  
23 ABC sign, it was all custom. So we had engineers that  
24 would do all of the design work.

11:09AM 25 Q. So you would say you were designing new LED display

1 products at BillBoard Video?

2 A. We were designing LED displays for all of these  
3 custom installations around the world.

4 Q. Is it fair to say, though, that you were using  
5 traditional LED technology?

11:09AM

6 A. At the time we were using cabinet LED displays.

7 Q. In 2006, you decided to sell BillBoard Video, right?

8 A. Yes.

9 Q. And then in 2007, you started Ultravision LED,  
10 right?

11:09AM

11 A. Yes, approximately.

12 Q. And Ultravision LED, is it fair to say, was a  
13 large-scale LED display company?

14 A. No. I don't understand your question, counsel.

15 Q. Is it fair to say that Ultravision LED was selling  
16 large LED displays?

11:10AM

17 A. Ultravision LED was trying to sell LED display --  
18 LED displays, whether they were large or small. We were  
19 trying to create a new technology and sell LED displays.

20 Q. Got it. So Ultravision LED was an LED display  
21 company?

11:10AM

22 A. Yes.

23 Q. Now, Ultravision LED was around from 2007 'til 2009,  
24 right?

25 A. Yes, approximately.

11:10AM

1 Q. And that was the -- about the beginning of 2009,  
2 right?

3 A. Yes.

11:10AM

4 Q. In 2009, the company had effectively no assets, and  
5 it closed its doors, right?

6 A. That's correct.

7 Q. In 2011, you started -- oh, no. Sorry.

8 Sometime in 2010, you set up a company called  
9 Ultravision Holdings; is that right?

11:11AM

10 A. That's correct, yes.

11 Q. And Ultravision Holdings was a holding company for  
12 what would become and be called

13 Ultravision Technologies, right?

11:11AM

14 A. Yeah, Ultravision Holdings was the original company,  
15 but it was the holding company for

16 Ultravision Technologies.

17 Q. Got it. And Ultravision Technologies is the  
18 plaintiff in this litigation that you sit here on behalf  
19 of, right?

11:11AM

20 A. Yes.

21 Q. And Ultravision Technologies, like Ultravision LED,  
22 was an LED display company, fair?

23 A. Yes. The intent was to manufacture and sell LED  
24 displays.

11:11AM

25 Q. And I think you testified on direct that today,

1 sitting here today, Ultravision Technologies doesn't  
2 design, manufacture, or sell any LED displays; is that  
3 right?

11:12AM

4 A. We are trying to rebuild the company, and we're  
5 primarily focused on outdoor LED lighting.

6 Q. And it's fair to say that as of September 2019,  
7 you've stopped production of LED displays, right?

8 A. Yes, that's correct.

11:12AM

9 Q. You currently said you have five employees; is that  
10 right?

11 A. It's less than ten employees. I think we have seven  
12 employees now.

13 Q. And where are those employees based?

14 A. Farmers Branch in Texas.

11:12AM

15 Q. Now, I believe on direct you testified that Absen  
16 undercut you on price, didn't you?

17 A. Yes.

18 Q. It's fair to say, though, that you don't know  
19 Absen's sales price, do you?

11:13AM

20 A. No. It varies from job to job. Every job has  
21 different pricing.

22 Q. But you don't know Absen's sales price, do you?

23 A. Again, it's different on every job, so I don't know  
24 what prices they are submitting on every job that they

11:13AM

25 bid.

1 Q. You don't know any of those sales prices, right?

2 A. I tried to answer as best I can. Every job is  
3 unique and different. You can't call Absen and get  
4 prices, so every quote that I've seen was below our  
5 quotes.

11:13AM

6 Q. But you haven't actually seen any Absen quotes,  
7 right?

8 A. I have in the past. I have not seen any quotes in  
9 the last year. I don't know if that answers your  
10 question, but we have seen quotes in the past.

11:13AM

11 Q. Okay. I'm just -- it's fair to say that you don't  
12 know any sales prices for which Absen has sold any of  
13 the accused products, right?

14 A. No, sir. I've seen quotes in the past. I'm trying  
15 to answer your question as best I can. Even for some of  
16 the jobs that were put up on the board earlier, I've  
17 seen some of their quotes.

11:14AM

18 Q. But sitting here today, you don't know what those  
19 sales prices were, right?

20 A. If you have -- I don't remember the specific quotes,  
21 but if you have quotes that you want to refer to, I can  
22 try to verify that.

11:14AM

23 Q. No, it's okay. Now, you also mentioned that Absen  
24 undercut you on the Cotton Bowl deal, didn't you?

11:14AM

25 A. Yes.

1 Q. Do you know for sure that Absen won the Cotton Bowl  
2 deal?

3 A. That's what I was informed.

11:14AM

4 Q. Okay. But it's your testimony that Absen's product  
5 is installed in the Cotton Bowl, right?

6 A. I was informed by Albert Liu, who was the previous  
7 president of Absen, that they were supplying the product  
8 for the Cotton Bowl.

11:15AM

9 Q. It's your testimony today that Absen's product is  
10 installed at the Cotton Bowl, right?

11 A. That was my understanding.

12 Q. Now, you testified on direct, right at the end,  
13 about some licenses that you've received, right?

14 A. Yes.

11:15AM

15 Q. It's fair to say that every one of the licenses you  
16 looked at was a litigation license, right?

17 A. The Lamar license was not, for the LED displays, was  
18 not a litigation license.

19 Q. You were engaged in litigation with Lamar, right?

11:15AM

20 A. For outdoor LED lighting, yes, but not for LED  
21 displays.

22 Q. But you were engaged in litigation with Lamar,  
23 right?

11:16AM

24 A. I think I've answered your question. For outdoor  
25 LED lighting, but then they came to us separately and

1 they asked for a license for the outdoor LED displays.

2 Q. And you also testified to a license that you have  
3 from Samsung, right?

4 A. Yes.

11:16AM 5 Q. And Samsung's license is for \$2 million, right?

6 A. Yes.

7 Q. Samsung's license doesn't have a running royalty,  
8 does it?

9 A. There was no way to give them a running royalty at  
11:16AM 10 the time. They had zero sales. They didn't have any  
11 sales in the United States yet.

12 Q. So you sued Samsung even though they had no U.S.  
13 sales, right?

14 A. We did not know what their sales were when we  
11:16AM 15 started the lawsuit.

16 Q. But you sued Samsung, and that resulted in the  
17 \$2 million license that you testified here to today,  
18 right?

19 A. Yes, that is correct.

11:16AM 20 Q. And that license includes no running royalty, right?

21 A. That's right. At the time, again, they had no  
22 sales, so there was no -- there was no running royalty.  
23 We just charged them a flat fee.

24 Q. Got it. So you would agree that Samsung now has  
11:17AM 25 unfettered rights to use your patents throughout the



1 United States for \$2 million flat fee, right?

2 A. We signed a license agreement with them for  
3 approximately \$2 million at a time when they had zero  
4 sales in the United States, and so now they have a  
5 license to our patents.

11:17AM

6 Q. They have full rights to your patents for the  
7 indefinite future to do what they want for \$2 million  
8 flat fee, right?

9 A. They have a license to our -- we have signed an  
10 agreement with them, so they have a license to our  
11 patents --

11:17AM

12 THE COURT: All right, gentlemen. Wait a  
13 minute. This back-and-forth is not helping us. You  
14 need to answer the question; you need to ask the  
15 questions you want answered.

11:17AM

16 This is about the third exchange where the same  
17 question's gotten the same answer, and that doesn't help  
18 anybody. Restate your question and then answer the  
19 question asked. Don't offer an explanation. Answer the  
20 questions asked.

11:17AM

21 If Mr. Fabricant wants to probe it and get an  
22 explanation and go into it further, he can do that when  
23 he gets a chance to ask follow-up questions.

24 Restate your question, Mr. McCarthy.

11:18AM

25 MR. McCARTHY: Thank you, your Honor.

1 Q. Samsung has a \$2 million flat fee license to do what  
2 it wants with your patents for the indefinite future,  
3 yes?

4 A. Yes, they have a license for our patents, yes.

11:18AM

5 THE COURT: Let's move on.

6 Q. And we also talked about -- or you also talked about  
7 the NEC license, right?

8 A. Yes.

9 Q. NEC is another company that was sued by you, right?

11:18AM

10 A. Yes, sir.

11 Q. And NEC's license is also for about \$2 million,  
12 right?

13 A. Yes, sir.

14 Q. And NEC also has unfettered rights for the  
15 indefinite future to do what it wants with your display  
16 patents for \$2 million flat fee, right?

11:18AM

17 A. We have signed an agreement with NEC giving them the  
18 rights to use our patents, a license agreement to use  
19 our patents, yes.

11:19AM

20 Q. Now, you didn't mention some of your other  
21 litigation-based licenses. You also have a  
22 litigation-based license with a company named Yaham;  
23 isn't that right?

24 A. Yes, we do.

11:19AM

25 Q. And Yaham has unfettered rights for the next two

1 years to do what it wants with the asserted patents for  
2 the flat fee price of \$445,000, right?

3 A. Yes, we signed a limited license with them.

4 Q. And you also didn't mention a litigation license

11:19AM

5 that you entered into with a company named Ledman, did  
6 you?

7 A. No, sir. I wasn't asked about them.

8 Q. And you agreed to a seven-year license with Ledman  
9 also for \$445,000, right?

11:19AM

10 A. Yes, we agreed to a limited license with Ledman.

11 Q. All right. Let's turn to the three asserted  
12 patents. You testified on direct to 32 display panel  
13 patents and 23 lighting panel patents -- or lighting  
14 patents; is that right?

11:20AM

15 A. Yes.

16 Q. But only three display patents are at issue in this  
17 case, right?

18 A. That is correct.

19 Q. So nobody's presenting evidence about the 29 other  
20 display patents, right?

11:20AM

21 A. No, sir, I do not believe so.

22 Q. And nobody's displaying evidence about your lighting  
23 patents, right?

24 A. No, sir.

11:20AM

25 Q. So let's talk about your general understanding of

1 the innovations in the three patents that are asserted  
2 here. You testified a lot on direct about getting rid  
3 of the cabinet.

11:21AM

4 Would you agree with me that that's a core  
5 innovation in these patents?

6 A. Yes, sir.

7 MR. McCARTHY: Now, if I may, can I use the  
8 ELM0?

11:21AM

9 THE COURT: It's on the top. It's the wheel on  
10 the top.

11 Q. Do you recognize this slide from your counsel's  
12 opening, Mr. Hall?

13 A. I believe so, yes.

11:21AM

14 Q. And you see on this slide that your counsel has  
15 shown seven bullet points? You see that?

16 A. Yes, sir.

17 Q. And this slide is called: Ultravision's Solution.  
18 Do you see that?

19 A. Yes, sir.

11:22AM

20 Q. Would you agree with me that these seven solutions  
21 are key innovations that are described throughout the  
22 three asserted patents?

23 A. I believe these are some of the basic innovations  
24 that we were striving for in the design of the product  
25 and the patents.

11:22AM

1 Q. Are there any innovations you were striving for  
2 which are not listed on this slide?

3 A. Well, one of the issues is being able to determine  
4 which panel has to be replaced, and it's part of our  
5 hot-swappable patent that you have to be able to  
6 determine which panel has to be replaced. So you have  
7 to be able to monitor those patents as well -- or,  
8 excuse me, those panels. Sorry, sir.

9 Q. So you would add monitoring as a key innovation to  
10 this slide?

11 A. It's an additional innovation that we developed, and  
12 it's part of one of the patents.

13 Q. Okay. Now, I want to talk about each of these one  
14 by one and understand which patents the innovation is  
15 important to.

16 So my understanding is that modular without  
17 cabinets is important to all three patents; is that  
18 fair?

19 A. Yes.

20 Is it possible to put this back up so -- as  
21 we go through? I think it's -- there you go.

22 Q. I imagine that's easier.

23 A. Yes.

24 Q. Okay. I'm going to write in which patents they are  
25 pertinent to, but why don't we step through each of them

1 first. So interchangeable panels is also pertinent to  
2 all three patents; is that fair?

3 A. I think interchangeable is primarily our -- I  
4 believe it's our '904 Patent on being able to hot-swap  
11:24AM 5 the panels and be able to monitor the panels and  
6 interchange them.

7 Q. So interchangeable is unique to the '904 Patent  
8 then?

9 A. And, sir, I don't have the exact patents in front of  
11:24AM 10 me. Maybe I need to grab those as well.

11 Q. Sure. I believe that they are PTX-1, 2, and 3 in  
12 your binder from direct.

13 A. Sorry. Excuse me. Yes. Okay.

14 Q. I think on direct you testified that the '904 Patent  
11:25AM 15 is the hot-swappable patent; is that right?

16 A. Yes.

17 Q. And so you would agree with me that the '782 and the  
18 '294 Patents are the waterproof patents, right?

19 A. Yes. Those are more directed toward the  
11:25AM 20 waterproofing of the panels. And I think that we've --  
21 the Court has defined "modular" as interchangeable  
22 without a cabinet.

23 Q. Okay. So interchangeability is unique to the '904,  
24 or it applies to all three patents?

11:25AM 25 A. I believe as the Court has defined it, "modular" is

1 interchangeable without cabinets. So it would be  
2 covered by all three patents.

3 Q. Got it. And then plastic housing is for the '782  
4 and '294 Patents, right?

11:26AM 5 A. Yes, that's correct.

6 Q. Sealed to be waterproof is also for the '782 and  
7 '294 Patents, right?

8 A. Yes, that is correct.

9 Q. And more energy efficient is for all three patents,  
11:26AM 10 isn't it?

11 A. More energy efficient is removing the fans, which is  
12 in the -- excuse me, sir.

13 Q. I believe you're looking for the '294 Patent.

14 A. Yes. It's in the '294 Patent where we actually  
11:26AM 15 removed the fans and kept the IP65 rating.

16 Q. Okay. So it's your position you can remove the  
17 cabinet but still have a fan in the '782 Patent; is that  
18 right?

19 A. Can remove the cabinet but still have the fans? I'm  
11:27AM 20 trying to understand -- best understand your question.  
21 But the definition of the module is interchangeable  
22 without a cabinet.

23 We were trying to have those panels and  
24 have them IP65 rated without fans was the goal.

11:27AM 25 Q. Okay. Your testimony is that more energy efficient

1 is unique to the '294 Patent; is that fair?

2 A. I don't know that it was -- it was only more energy  
3 efficient, but removing the fans also removed a point of  
4 entry for water. So getting rid of the fans made the  
5 panel IP65/IP67 rated and more energy efficient.

11:27AM

6 Q. Okay. Now, service from the front or rear, would  
7 you agree with me that is a key innovation in all three  
8 patents?

9 A. Yes.

11:28AM

10 Q. And then hot-swappable panels is unique to the  
11 '904 Patent; is that right?

12 A. Yes.

13 Q. And then monitoring is unique to the '904 Patent,  
14 right?

11:28AM

15 A. I believe that is correct, yes.

16 Q. All right. Now, one of the key time periods is 2007  
17 to 2009, which is when you said you were at  
18 Ultravision LED, right?

19 A. That's correct.

11:29AM

20 Q. And Ultravision LED started in 2007, right?

21 A. I believe so.

22 Q. Now, when we were talking about BillBoard Video, you  
23 said that BillBoard Video used cabinet-based displays,  
24 right?

11:29AM

25 A. That is correct.



1 Q. BillBoard Video did not use any cabinetless  
2 displays, right?

3 A. Yeah.

11:29AM

4 Q. In fact, prior to starting Ultravision LED, you had  
5 not originated the idea for a cabinetless display, fair?

6 A. I started Ultravision LED to try to design a new  
7 product, to try to design a panel and overcome the  
8 problems that we had had with cabinets.

11:30AM

9 THE COURT: Counsel, are you saying  
10 "cabinetless "or "cabinet list"?

11 MR. McCARTHY: Cabinetless.

12 THE COURT: Without a cabinet?

13 MR. McCARTHY: Yes.

11:30AM

14 THE COURT: Okay. Thank you for the  
15 clarification. Let's proceed.

16 Q. So the origination of your idea for no cabinet was  
17 after you started Ultravision LED, right?

18 A. It's the reason I started Ultravision LED, yes.

11:30AM

19 Q. And you came up with the idea for no cabinet after  
20 you started Ultravision LED, right?

21 A. That is the reason I -- I'm trying to answer your  
22 question, counselor, but that is the reason I started  
23 Ultravision LED was to try to design a new LED display  
24 without cabinet.

11:30AM

25 Q. So it's fair to say that before you started

1 Ultravision LED, you hadn't thought of your idea to  
2 remove the cabinet, right?

3 A. I was -- with my experience at Billboard Video, I  
4 was trying to design a better way to install LED  
11:31AM 5 displays and lower the cost of installation and  
6 operation.

7 Q. Your testimony is the origination of that idea,  
8 cabinetless display, didn't come about until after  
9 Ultravision had started, right?

11:31AM 10 A. I don't -- sir, I don't think that was my testimony.  
11 I started Ultravision LED to try to overcome the  
12 problems that we had experienced with cabinet displays.

13 Q. Can you take a look at Tab A in your Binder 1 that  
14 my colleague provided to you. It should be your  
11:31AM 15 deposition transcript from September 14th, 2020.

16 A. Just give me a moment. Yes, sir.

17 Q. Sorry. You can put that away.

18 All right. When you started Ultravision LED in  
19 2007, your first hire was Roger Van Houtan; is that  
11:32AM 20 right?

21 A. I don't recall if he was my first hire. He was one  
22 of the first few hires.

23 Q. And after Roger joined, you and him went to China to  
24 tour various manufacturers; is that right?

11:33AM 25 A. Roger had worked for me at Billboard Video and, yes,

1 he went with me to China.

2 THE COURT: Let me ask the witness to avoid  
3 referring to individuals by first name only. Please use  
4 their complete name or their last name but not first  
11:33AM 5 names only.

6 THE WITNESS: Yes, sir. I apologize.

7 THE COURT: All right. Let's continue.

8 Q. So after Mr. Van Houtan joined, you and him toured  
9 various manufacturers in China, right?

11:33AM 10 A. Yes, Mr. Van Houtan went with me to China to go to  
11 some of the manufacturers.

12 Q. And you toured more than 25 different Chinese  
13 manufacturers, didn't you?

14 A. I don't remember the exact number, sir. He was not  
11:33AM 15 there on the first trips to China.

16 Q. But you yourself visited more than 25 different  
17 manufacturers, right?

18 A. I don't remember the exact number, but I toured many  
19 different manufacturers there in Shenzhen, yes.

11:34AM 20 Q. The one you liked the most was LianTronics; was that  
21 fair?

22 A. Yes.

23 Q. And then you had a first meeting with LianTronics.  
24 Do you remember that?

11:34AM 25 A. I remembered several meetings with LianTronics. I

1 don't remember the exact first meeting.

2 Q. Okay. So you don't remember what happened at your  
3 first meeting with LianTronics; is that fair?

4 A. No, I don't remember the exact first meeting with  
5 LianTronics.

11:34AM

6 Q. You don't remember the specifics of what was  
7 discussed at the first meeting, do you?

8 A. No.

9 Q. You don't remember any products that they would have  
10 shown you; is that right?

11:34AM

11 A. No. The -- the -- I'm sorry. Go ahead.

12 Q. You don't remember LianTronics' facilities; is that  
13 fair?

14 A. I do remember their facilities. I remember a tour  
15 of their facilities and some of the products they were  
16 manufacturing at the time.

11:35AM

17 Q. Would you agree that their facilities were  
18 impressive?

19 A. Their facilities were similar to a lot of the  
20 facilities that we had toured over there.

11:35AM

21 Q. You sourced indoor and outdoor products from  
22 LianTronics; is that right?

23 A. We started to do so, yes.

24 Q. Can we look at DTX-208, which you should have in a  
25 binder that we provided to you, Mr. Hall, if you need

11:35AM

1 it.

2 A. Sorry. DTX-208. Got it. Yes, sir.

3 Q. DTX-208 is a supplier agreement between you and --  
4 well, between Ultravision LED and LianTronics; is that  
5 right?

11:36AM

6 A. Yes, sir.

7 Q. And I see here that the name of the Shenzhen entity  
8 is LCJH; is that right?

9 A. That's correct.

11:36AM

10 Q. And LCJH is just an acronym, I guess, for  
11 LianTronics, fair?

12 A. Yeah. Shenzhen LCG -- LCJH became Shenzhen  
13 LianTronics.

14 Q. That agreement was dated April 30th, 2007, right?

11:37AM

15 A. Yes.

16 Q. And under that agreement, you became the exclusive  
17 dealer of both standard products and UltraPanel products  
18 in the United States, right?

19 A. Yes, but I don't believe we actually ever signed the  
20 agreement with them. Do you have a -- is there a signed  
21 version?

11:37AM

22 THE COURT: All right. Just a minute. It's  
23 not the witness's place to ask for a signed version of  
24 the agreement.

11:37AM

25 THE WITNESS: Yes, sir.

1 THE COURT: And he didn't ask you if the  
2 agreement had been signed. Now, this is the third,  
3 Mr. Hall, I've had to instruct you to limit your  
4 responses to the questions that are asked.

11:37AM

5 It's imperative that you follow my  
6 instructions. If you can't, then I may be forced to  
7 make some other decisions, but I don't see why you can't  
8 do that.

9 THE WITNESS: Yes, your Honor.

11:38AM

10 THE COURT: Mr. Fabricant, as you well know, is  
11 going to get another chance at the podium with you on  
12 the witness stand, and he can ask any follow-up  
13 questions he wants to. But you've got to limit your  
14 answers to the responses given. And if you don't  
15 understand a question, simply say, "I don't understand  
16 the question." Is that clear?

11:38AM

17 THE WITNESS: Yes, sir. Apologize.

18 THE COURT: All right, Mr. McCarthy. Let's  
19 continue.

11:38AM

20 MR. McCARTHY: Yes, your Honor.

21 Q. Can you take a look at Pages 22 and 23 of DTX-208?

22 A. 22 and 23, yes.

23 Q. You see here this is Exhibit A to that agreement,  
24 and it's entitled "Standard Products"?

11:38AM

25 A. Yes.

1 Q. These list certain True Vision series outdoor  
2 display products; is that right?

3 A. Yes.

4 Q. And the specifications that are associated with  
5 each, right?

6 A. Yes, that's correct.

7 Q. Would you agree with me that while you were at  
8 Ultravision LED, at least for a time, you had the right  
9 to sell these products in the United States?

10 A. Yes. I -- yes, that's stated here.

11 Q. You did have a right to sell True Vision products in  
12 the United States, didn't you?

13 A. We attempted to sell outdoor LED -- True Vision  
14 outdoor LED display products in the U.S.

15 Q. And if you look at Page 23, it talks about  
16 CrystalVision products.

17 A. Okay.

18 THE COURT: Is that a question, counsel?

19 MR. McCARTHY: Not yet, your Honor.

20 THE COURT: Well, let's ask questions of the  
21 witness. If I make him limit his answers to the  
22 questions you asked, you have to ask questions. You  
23 understand?

24 MR. McCARTHY: My apologies, your Honor. I

25 was --

1 THE COURT: Let's try to get this  
2 cross-examination back on track, okay?

3 Q. On Page 23, do you see that it says: CrystalVision  
4 series indoor products?

11:40AM

5 A. Yes.

6 Q. You also had the right to sell the CrystalVision  
7 products in the United States; is that right?

8 A. Yes, that's what this indicates, yes.

11:40AM

9 Q. Ultravision LED had the right to sell CrystalVision  
10 products in the United States, right?

11 A. CrystalVision was our name of the product. So when  
12 you said we had the rights, that was -- CrystalVision  
13 was our name.

11:40AM

14 Q. So you had the right to sell CrystalVision products  
15 manufactured by LianTronics in the United States, right?

16 A. We had the -- sir, I'm trying to directly answer  
17 your question. CrystalVision was our name. We had the  
18 right to sell these products in the United States.

11:41AM

19 Q. Let's move over to Page 24. Page 24 shows  
20 UltraPanel products, doesn't it?

21 A. Yes.

22 Q. And UltraPanel is an Ultravision LED trade name,  
23 fair?

24 A. Yes.

11:41AM

25 Q. And during the time period 2007 to 2009, you had the



1 right to sell Ultravision-branded products in the  
2 United States, right?

3 A. I'm sorry, sir. Ultravision branded or UltraPanel  
4 branded?

11:41AM

5 Q. I'll repeat the question. I'm sorry if I misstated.

6 You had the right from the time period 2007 to  
7 2009 to sell UltraPanel-branded products in the  
8 United States, right?

11:42AM

9 A. Yes. That was our trade name for those products in  
10 the United States.

11 Q. And during that entire time period, those UltraPanel  
12 products would have been manufactured by LianTronics,  
13 right?

14 A. Yes, that is correct.

11:42AM

15 Q. Now, what's defined here on the document is a  
16 18-millimeter pitch UltraPanel. You see that?

17 A. Yes.

18 Q. And it's also an IP67 weatherproofed product. Do  
19 you see that?

11:42AM

20 A. Yes.

21 Q. And this was the very first UltraPanel, right?

22 A. Yes. This was our very first attempt to manufacture  
23 the UltraPanel.

24 Q. Now, it says here that the UltraPanel had

11:43AM

25 18-millimeter pitch; is that right?

1 A. That is correct.

2 Q. And the pitch distance just refers to the distance  
3 between the LEDs on the front of the screen, right?

4 A. Yes. The closer the LEDs, the smaller the pitch.

11:43AM 5 So the pitch is just essentially the resolution of the  
6 LED display.

7 Q. And over the course of 2007 to 2009, there was also  
8 a 20-millimeter pitch UltraPanel; is that fair?

9 A. That is correct.

11:43AM 10 Q. And the only difference between the 18-millimeter  
11 UltraPanel and the 20-millimeter UltraPanel was the size  
12 of the housing; is that fair?

13 A. The size of the housing was -- I believe was the  
14 same. It's just the pitch, the distance between the  
11:44AM 15 LED, the LEDs, but I believe the housing was the same  
16 size.

17 Q. So it's your testimony that the 18-millimeter  
18 UltraPanel and the 20-millimeter UltraPanel had the same  
19 housing; is that fair?

11:44AM 20 A. Yes. I'd have to go back and look at the exact  
21 dimensions, but I believe they were.

22 Q. Now, you stated that you invented the UltraPanel in  
23 the April of 2007; is that fair?

24 A. Invented the UltraPanel? I started the design and  
11:44AM 25 the idea and the concept of the UltraPanel in 2007, but

1 I'll let you answer -- ask the question. Sorry, sir.

2 Q. You'd agree with me that you first started to invent  
3 the UltraPanel in April 2007, right?

4 A. It was my goal to come up with a modular LED display  
5 panel in 2007.

6 Q. The conception of that goal started in April 2007,  
7 right?

8 A. I'm sorry, sir. I'm trying to answer your question  
9 as best I can, but my goal in starting that company was  
10 to try to create that modular -- eliminate the cabinets  
11 and create that modular LED display panel.

12 Q. Can you take a look at Tab H in your testimony  
13 binder?

14 A. Sorry. Give me one moment. Okay. Yes, sir.

15 Q. Now, you testified in a prior proceeding in 2016  
16 about certain attributes related to the original  
17 UltraPanel, didn't you?

18 A. I believe so. Are we referring to some -- yes.

19 Q. In 2016, you testified under oath in a separate  
20 proceeding about certain attributes related to the  
21 UltraPanel; do you remember that?

22 A. Sir, I don't remember the exact testimony. Can you  
23 point to something that I should refer to?

24 Q. Can we look at Pages 153, Line 25, going on to  
25 Page 154, Line 3.

1 And, Mr. Hall, you were asked the following  
2 question: "So now you can recall, when did you first  
3 start to invent the UltraPanel?"

11:47AM

4 "It had to be -- if there is a signed version  
5 of this, it had to be in April 2007."

6 A. Is this going on the video screen? Okay. Page 153.

7 Q. Line 25 to 154, Line 3. Page 153, Line 25.

8 In 2016 you were asked, "Can you recall, when  
9 did you first start to invent the UltraPanel?"

11:48AM

10 "It had to be -- if there is a signed version  
11 of this, it had to be in April 2007."

12 Do you see that?

13 A. Yes.

11:49AM

14 Q. So you would agree with me that the origination of  
15 the idea, a cabinetless display, didn't come about until  
16 Ultravision LED had started, right?

17 A. My intent in starting Ultravision LED was to design  
18 modular LED display panel without the cabinet.

11:49AM

19 MR. McCARTHY: Your Honor, could I get an  
20 answer?

21 THE COURT: Just a minute. Just a minute. Are  
22 you objecting that the response is nonresponsive?

23 MR. McCARTHY: Objection. Nonresponsive, your  
24 Honor.

11:49AM

25 THE COURT: I'll sustain the objection.

1           Ask the question again and answer the question  
2 that's asked, Mr. Hall.

3           THE WITNESS: Yes, sir.

4           THE COURT: State your question again, counsel.

11:49AM 5   Q. Mr. Hall, the origination of that idea, cabinetless  
6 display, didn't come about until after Ultravision LED  
7 had started, right?

8   A. No, I don't think that's correct.

9   Q. Do you remember you also had your deposition taken  
11:50AM 10 as part of this case?

11   A. Yes.

12   Q. I believe we did that deposition over Zoom, didn't  
13 we?

14   A. I believe so.

11:50AM 15   Q. But you were testifying under oath in that  
16 deposition as if you were in court here today, right?

17   A. Yes.

18   Q. And can you turn with me to Tab A of your binder?  
19 We're going to look at Page 101, Lines 12 through 15.

11:51AM 20   A. I'm sorry, sir. What page are we looking at?

21   Q. Page 101, Lines 12 through 15.

22   A. Okay. Yes, sir.

23   Q. And you were asked the following question: "And,  
24 you know, the origination of that idea, cabinetless

11:51AM 25 display, did not come about until after Ultravision LED

1 had started, right?"

2 And you gave the following answer: "Yes. I  
3 think that's correct."

4 THE COURT: Do you have a question to follow  
11:51AM 5 that with, counsel?

6 Q. You gave that testimony, right, Mr. Hall?

7 A. That appears to be my testimony, yes.

8 Q. Let's look at DTX-259.

9 A. Yes, sir.

11:52AM 10 Q. This is an engineering drawing for the all-metal  
11 UltraPanel, isn't it?

12 A. Yes.

13 Q. This shows a cabinetless display panel, doesn't it?

14 A. Yes.

11:52AM 15 Q. You didn't author this, did you?

16 A. No.

17 Q. Do you know who drew it?

18 A. No, I don't recall who drew it.

19 Q. But this is the all-metal UltraPanel that you  
11:52AM 20 invented in April 2007?

21 A. This appears to be a drawing of what we were trying  
22 to design for the UltraPanel.

23 Q. This is a drawing of the all-metal UltraPanel,  
24 right?

11:52AM 25 A. Yes.

1 Q. On the first page, it shows an A and B style  
2 UltraPanel; is that fair?

3 A. Yes.

11:53AM

4 Q. Why don't we zoom in just a little bit more and show  
5 the dimensions of that UltraPanel. You see the  
6 number .504?

7 A. Yes.

8 Q. That's written in centimeters, so that's 504  
9 millimeters, isn't it?

11:53AM

10 A. That's correct.

11 Q. And what is that drawing the distance between?

12 A. It looks like that's drawing the distance of the  
13 hole points, the attachment points.

14 Q. And what are those hole points for?

11:53AM

15 A. Those are attachment points like you would see in  
16 the back of the display panels to attach to a frame.

17 Q. And then you see that there are two interior hole  
18 points that are labeled as being 176 millimeters apart?

19 A. Yes.

11:54AM

20 Q. There's 176 millimeters between those hole points,  
21 right?

22 A. I believe so, yes.

23 Q. Can we pull up DTX-461. Now, I don't believe that  
24 you showed an UltraPanel on direct, but is it fair to

11:54AM

25 say that DTX-461 looks like the back of an all-metal

1 UltraPanel?

2 A. Yeah, that looks like an UltraPanel. I don't  
3 recognize the numbers on the back, but it looks like the  
4 aluminum UltraPanel.

11:54AM 5 Q. You don't know what those numbers mean: W576H288?

6 A. No, sir. This doesn't appear to be one of our  
7 photos, but it looks like the all-metal UltraPanel, if  
8 that answers your question.

9 Q. And that looks like the all-metal UltraPanel that  
11:55AM 10 you had possession of, at least at some point during the  
11 years 2007 to 2009, right?

12 A. Yes.

13 Q. Why don't we pull up DTX-452. DTX-452 is an  
14 engineering drawing, isn't it?

11:55AM 15 A. Yes.

16 Q. This also shows a cabinetless display, doesn't it?

17 A. It shows a modular -- well, yes, it shows a modular  
18 LED display panel.

19 Q. And you see that that panel in the upper right-hand  
11:55AM 20 side corner is list -- demarcated with those same numbers  
21 that you said you don't know what they are: W576H288?

22 A. Yes.

23 Q. Do you know who drew this?

24 A. No, I do not.

11:56AM 25 Q. Does it look like a LianTronics drawing?



1 A. It does look like a LianTronics drawing.

2 Q. And it says in the lower left-hand corner "PH18."

3 You see that?

4 A. Yes.

11:56AM

5 Q. Did you know that LianTronics called this drawing or  
6 this -- the product that's depicted here the P18?

7 A. No.

8 Q. What --

9 A. It's on the drawing.

11:56AM

10 Q. You have no reason to dispute that this is the  
11 LianTronics P18, right?

12 A. That appears to be what's on the drawing, sir.

13 Q. All right.

14 MR. McCARTHY: And then why don't we pull up  
15 the upper right-hand corner of DTX-452 and the top  
16 figure that we just looked at in DTX-259.

11:56AM

17 Q. Do you see that the holes in the horizontal  
18 orientation in the LianTronics product are 504  
19 millimeters apart just like the holes in your

11:57AM

20 UltraPanel?

21 A. Yes.

22 Q. Do you also see that the interior holes in the  
23 vertical direction are 176 millimeters apart in the  
24 vertical direction, just like in your all-metal

11:57AM

25 UltraPanel?

1 A. That appears to be the same, yes.

2 Q. And then the outside attachment holes are  
3 216 millimeters apart in both products, right?

4 A. Yes, that's what appears to be on the drawings.

11:58AM

5 Q. Now, can we look down at the lower right-hand corner  
6 of DTX-452. You see the date on this drawing is  
7 November 15th, 2006?

8 A. Yes.

11:58AM

9 MR. McCARTHY: All right. We can take this  
10 down.

11 Q. All right. In the 2007-2009 time frame, Ultravision  
12 was trying to sell the UltraPanel across the  
13 United States, wasn't it?

14 A. Yes.

11:58AM

15 Q. I think we looked at some of your sales materials  
16 earlier, didn't we?

17 A. Yes.

18 Q. Would you agree that Ultravision prepared and  
19 distributed a large amount of sales materials related to  
20 the UltraPanel?

11:59AM

21 A. We prepared sales material. You used the word  
22 "large." But, yes, we prepared a lot of sales material.

23 Q. E-mailed those materials out, right?

24 A. Yes.

11:59AM

25 Q. And you presented sales meetings related to the --

1 you went to sales meetings related to the UltraPanel,  
2 right?

3 A. Yes.

11:59AM

4 Q. Now, is it fair to say that Ultravision wasn't in  
5 the business of lying to its potential customers?

6 A. No, we -- I don't believe we were -- I don't believe  
7 Ultravision was in the business of lying to its  
8 customers.

11:59AM

9 Q. And you didn't try to intentionally mislead your  
10 customers, right?

11 A. No, sir.

12 Q. Why don't we turn to DTX-417, which is a document  
13 you referred to on direct.

11:59AM

14 THE COURT: Before we go into this exhibit,  
15 we're going to break for lunch at this point. It's  
16 12:00 noon by the clock I have in front of me, and I'm  
17 advised by the clerk's office that the jury's lunch is  
18 in the jury room waiting for them.

12:00PM

19 Ladies and gentlemen of the jury, if you'll  
20 take your notebooks with you during the lunch break. If  
21 you'll follow all my instructions, including not to  
22 discuss the case among yourselves, we'll try to  
23 reconvene as close to 1:00 p.m. as we can.

12:00PM

24 With those instructions, the jury's excused for  
25 lunch.

1 (Whereupon, the jurors exit the courtroom.)

2 THE COURT: Let me see Mr. McCarthy,  
3 Mr. Gillam, Ms. Truelove, and Mr. Fabricant in chambers.

4 We stand in recess for lunch.

12:01PM

5 (Recess from 12:01 p.m. to 1:13 p.m.)

6 THE COURT: Mr. Hall, if you'll return to the  
7 witness stand, please, sir. I remind you, you remain  
8 under oath.

9 THE WITNESS: Yes, sir.

01:13PM

10 THE COURT: Mr. McCarthy, you may return to the  
11 podium and prepare to continue your cross-examination.

12 And with that, let's bring in the jury, please.

13 (Whereupon, the jurors enter the courtroom.)

14 THE COURT: Please be seated.

01:14PM

15 Ladies and gentlemen, we'll continue with the  
16 cross-examination of Mr. Bill Hall by the defendants.  
17 Mr. McCarthy, you may continue.

18 MR. McCARTHY: Thank your Honor.

19 Q. Mr. Hall, before we left off, we were talking about  
20 your relationship with LianTronics. It's fair to say  
21 that in the 2007 to 2009 time frame when you were  
22 working with LianTronics, you did not recall providing  
23 LianTronics with any actual design drawings; is that  
24 fair?

01:14PM

25 A. No, sir.

1 Q. I'm going to turn back to the deposition that you  
2 gave under oath in this case, Day 1 at Page 190, Line  
3 13 -- oh, no, line -- yeah, Line 13 through 16.

4 At that deposition, Mr. Hall, you were asked,  
01:15PM 5 "Did you provide LianTronics with design drawings?"

6 And you answered, "I don't recall that we  
7 provided LianTronics with any actual design drawings."

8 You were asked that question and gave that  
9 answer, right, Mr. Hall?

01:15PM 10 A. Yes, sir. That appears to -- yes, sir.

11 Q. Now, let's turn to DTX-417. This is a document that  
12 you talked about on direct. Do you remember that?

13 A. Yes, sir.

14 Q. This is a sales document from your time at  
01:15PM 15 Ultravision LED between 2007 and 2009, right?

16 A. Yes, sir, I believe so.

17 Q. We know that because it has the Ultravision LED  
18 trademark on it, doesn't it?

19 A. Yes, sir.

01:15PM 20 Q. Now, this is the type of marketing material that  
21 Ultravision LED was making during that 2007 to 2009 time  
22 frame, right?

23 A. Yes, sir.

24 Q. Let's turn to Page 4 of DTX-417. Says that

01:16PM 25 Ultravision LED has a manufacturing headquarters in

1 Shenzhen, China. That's not accurate, is it?

2 A. No, sir. We were manufacturing there, but -- I  
3 don't know how best to answer that. No, sir.

01:16PM

4 Q. Well, Ultravision LED didn't own any real estate in  
5 Shenzhen, did it?

6 A. No, sir.

7 Q. All right. Let's turn to Page 5. You see here  
8 Ultravision advertised a state-of-the-art manufacturing  
9 facility located in Shenzhen. You see that?

01:16PM

10 A. Yes, sir.

11 Q. You didn't actually own a manufacturing facility in  
12 Shenzhen, did you?

13 A. No, sir.

01:17PM

14 Q. And it goes on to state that the facility employs  
15 over 500 employees, doesn't it?

16 A. Yes.

17 Q. You didn't employ 500 people at any point during  
18 your time at Ultravision LED, did you?

19 A. No.

01:17PM

20 Q. Let's go over to Page 10, and this is -- it may have  
21 been the slide that you presented on direct. This is an  
22 advertisement for the UltraPanel, isn't it?

23 A. Yes.

01:17PM

24 Q. This is the UltraPanel that we saw a drawing for  
25 earlier, isn't it?

1 A. I believe so, yes.

2 Q. And the picture here shows that same W576H288  
3 number, doesn't it?

4 A. Yes, it does.

01:17PM

5 Q. And you see here that one of the selling points for  
6 the UltraPanel, Point Number 2, is provided as its IP67  
7 rated cabinet is waterproof. You see that?

8 A. Yes.

01:18PM

9 Q. It's your position here today that that's wrong,  
10 right?

11 A. It's my position -- yes, that's correct, and that's  
12 my position as well.

13 Q. Why don't we look over at Slide Number 12. Remember  
14 looking at this slide on direct?

01:18PM

15 A. Yes.

16 Q. I believe you have a color version of it that I do  
17 not have. Do you remember testifying that this is a  
18 demonstration to show the unique advantages of the  
19 invention?

01:18PM

20 A. Yes.

21 Q. You testified that here today?

22 A. I believe so, yes.

23 Q. And you'd agree with me that this is an assembly of  
24 the UltraPanel, isn't it?

01:18PM

25 A. Yes, this is assembly using that earlier UltraPanel.

1 Q. Got it. So that UltraPanel picture there shows the  
2 unique advantages of the invention?

3 A. Yes.

01:19PM

4 Q. Now, what you're seeing built here on Slide 12 is  
5 actually the display that was donated to your son's high  
6 school, Episcopal School of Dallas, isn't it?

7 A. Yes, sir. It was daughter, but, yes, sir.

8 Q. So the sign was built at this location and then it  
9 was freighted over to the school; is that right?

01:19PM

10 A. Yes, sir.

11 Q. Can we skip over to Page 19. Is this a picture of  
12 that display in the field there?

13 A. Yes, sir.

01:19PM

14 Q. So that's an UltraPanel shown in the picture on the  
15 right, correct?

16 A. Yes, sir.

17 Q. Now, it looks like an old kind of, on the right-hand  
18 side, a digital scoreboard, but the truth is that that  
19 entire thing is an HD display, isn't it?

01:20PM

20 A. Yes, sir, the entire thing is an LED display.

21 Q. And the entire thing was operational at ESD for  
22 multiple years, wasn't it?

23 A. Yes, sir.

01:20PM

24 Q. Let's look at another one of Ultravision LED's  
25 marketing materials, DTX-416. This is another marketing



1 material from Ultravision LED, Mr. Hall.

2 A. I believe, if that's a question, yes, sir.

3 Q. And it's marked with the trademark Ultravision LED  
4 on the top, right?

01:20PM 5 A. Yes, sir.

6 Q. So we know this is from the 2007-2008 time frame,  
7 correct?

8 A. I believe so, sir.

9 Q. Let's turn to Page 8. This is an entire slide  
01:20PM 10 dedicated to advertising the UltraPanel as IP67  
11 certified, isn't it?

12 A. Yes, sir.

13 Q. And we can actually compare DTX-416 at Page 8 to  
14 DTX-417 at Page 11. You can see here that

01:21PM 15 Ultravision LED, in the time frame 2007 to 2009, had  
16 different slides for presenting the UltraPanel as IP67  
17 certified, didn't it?

18 A. I believe so, yes, sir.

19 Q. Please turn to DTX-413. This is also  
01:21PM 20 Ultravision LED material from the time period 2007 to  
21 2009, isn't it?

22 A. I believe so, sir.

23 Q. This is product and sales training from  
24 Ultravision LED, isn't it?

01:22PM 25 A. I believe so.

1 Q. Is it fair to say that this is a document you used  
2 to educate new employees that you were hiring at  
3 Ultravision LED?

01:22PM

4 A. I don't remember this exact document but, yes, sir,  
5 that's what it says.

6 Q. Can you turn to Slide 14, and here Ultravision tells  
7 its new employees about its great -- about its outdoor  
8 displays of 18-millimeter and 20-millimeter. Those are  
9 the UltraPanel, right?

01:22PM

10 A. Yes.

11 Q. Down in the lower right-hand corner, you have  
12 another picture of the UltraPanel with the F1 number  
13 that we looked at earlier, right?

14 A. Yes, sir.

01:22PM

15 Q. And here you can see that Ultravision is telling its  
16 new employees that this product is IP67 rated, right?

17 A. Yes, sir, that's what it states.

18 Q. Can we turn next to DTX-414. DTX-414 has the  
19 trademark "Ultravision Media." You see that?

01:23PM

20 A. Yes, sir.

21 Q. And Ultravision Media is a trademark associated with  
22 Ultravision LED starting around 2009; is that right?

23 A. I believe so, yes.

01:23PM

24 Q. So this document would have been from 2009 or later,  
25 right?

1 A. I don't recall, sir.

2 Q. Okay. Let's look to Page 23. Do you see there you  
3 explain to new employees that your company manufactures  
4 all of its displays in a 500,000-square-foot,  
01:23PM 5 state-of-the-art facility in China?

6 A. Yes, sir.

7 Q. You don't know what facility that's referring to, do  
8 you?

9 A. No, sir, not at that time.

01:24PM 10 Q. If you flip over to Page 24, you see that the  
11 materials indicate that in April 2007, Ultravision Media  
12 constructed an architectural state-of-the-art  
13 manufacturing facility? You see that?

14 A. Yes.

01:24PM 15 Q. That's not true, is it?

16 A. No. No, sir.

17 Q. Let's go to Slide 43. And this is another slide  
18 where you show the UltraPanel, right?

19 A. Yes, sir.

01:24PM 20 Q. We see a picture of it with the 576, 288 number in  
21 the lower left-hand corner there?

22 A. Yes, sir.

23 Q. And these materials again advertise it or tell new  
24 employees that it's IP67 certified, right?

01:25PM 25 A. Yes, sir, that's what it says.

1 Q. Let's flip to DTX-419. This also bears the  
2 trademark of Ultravision Media. You see that?

3 A. Yes, sir.

4 Q. And it's a presentation provided to ASU; is that  
5 right?

6 A. Yes, sir.

7 Q. And ASU refers to Arizona State University; is that  
8 right?

9 A. Yes.

10 Q. Ultravision was trying to sell the UltraPanel in  
11 2009 to Arizona State University for use in its football  
12 stadium; is that fair?

13 A. Yes. Yes, sir.

14 Q. You didn't win that bid, did you?

15 A. No, sir.

16 Q. If we turn over to Slide 6, we can see that in these  
17 materials for ASU, Ultravision has clarified that its  
18 manufacturing facility in China is LianTronics'  
19 facility; is that fair?

20 A. Yes, sir, that's what it states.

21 Q. And you see that this slide indicates that  
22 LianTronics has earned IP67 certification?

23 A. Yes, sir, it's -- yes, sir, that's the  
24 certification, IP67.

25 Q. It also says that LianTronics had the third largest

1 sales reported in the world. Do you see that?

2 A. Yes, sir.

3 Q. It calls LianTronics the largest manufacturer of LED  
4 displays in the world. Do you see that?

01:26PM

5 A. Yes, sir.

6 Q. Let's go to Slide 16 of this presentation. During  
7 this presentation at Arizona State University, you --  
8 Ultravision indicates that there is environmental stress  
9 chamber testing that's been done. You see that?

01:26PM

10 A. Yes, sir.

11 Q. And it talks about how every display is tested for  
12 36 hours. Do you see that?

13 A. Yes, sir.

14 Q. And it talks about how they are sprayed with jets of  
15 water. You see that?

01:27PM

16 A. Yes, sir.

17 Q. Let's go to Slide 18. Slide 18 is a slide that was  
18 presented to Arizona State University that again  
19 specifically advertises the UltraPanel as IP67

01:27PM

20 certified, doesn't it?

21 A. Yes. Yes, sir.

22 Q. And again, this was prepared in 2009, so two years  
23 after Ultravision LED had gotten its start, right?

24 A. I believe so, sir. I don't see a date here, but I  
25 believe so.

01:27PM

1 Q. Now, you're not aware of a single marketing material  
2 within Ultravision LED that explained the UltraPanel had  
3 a lower than IP67 rating, fair?

4 A. I don't recall that, sir.

01:27PM

5 Q. Okay. You also don't recall a single marketing  
6 material that explained the UltraPanel doesn't work,  
7 right?

8 A. No, sir.

01:28PM

9 Q. You also don't recall a single internal document  
10 that explained the UltraPanel had a lower IP rating than  
11 IP67, right?

12 A. No, sir, I don't recall a document like that.

01:28PM

13 Q. And at your time at Ultravision LED, you also don't  
14 recall a single document that explained the UltraPanel  
15 did not work, fair?

16 A. I don't recall a document like that, sir.

17 Q. Now, at some point in early 2009, Ultravision had to  
18 close its doors, right?

19 A. Yes, sir.

01:28PM

20 Q. And in 2010, you still had effectively no employees;  
21 is that fair?

22 A. I believe so. That is fair, yes, sir.

23 Q. So 2010, it was just you associated with the  
24 Ultravision name, correct?

01:28PM

25 A. Yes, sir.

1 Q. At 2010, though, you started seeking funding to  
2 restart the Ultravision name; is that fair?

3 A. Yes, sir. In the beginning, it was funded by  
4 myself, but eventually, yes.

01:29PM

5 Q. Okay. Let's turn to DTX-420. This is a document  
6 dated June 2010, and it's entitled "General Capabilities  
7 Overview." You see that?

8 A. Yes. Yes, sir.

01:29PM

9 Q. And if you turn to Page 3 of the general  
10 capabilities that are presented in this document as of  
11 June 2010, you see that the only display product is the  
12 new UltraPanel technology; is that fair?

13 A. Yes, sir.

01:29PM

14 Q. Now, inevitably you partnered with a company named  
15 Active Media in 2011, right?

16 A. We -- yes, sir.

17 Q. Let's look at DTX-397. DTX-397 is sales materials  
18 presented between Ultravision and Active International;  
19 is that right?

01:30PM

20 A. Yes, sir.

21 Q. So this document would have been created after 2011,  
22 fair?

23 A. I believe so, yes, sir.

01:30PM

24 Q. So at least three years after you had started  
25 Ultravision LED, this document was prepared, right?

1 A. Yes, sir.

2 Q. And if we look at Page 74, we can see that you were  
3 on the board of directors; is that right?

4 A. Yes, sir.

01:30PM

5 Q. Then on Page 86, this presentation shows market  
6 growth opportunities. You see that?

7 A. Yes, sir.

8 Q. And it anticipates that by the year 2018, outdoor  
9 LED display sales will be \$2.1 billion, doesn't it?

01:31PM

10 A. Yes, sir, that's what it says.

11 Q. Was this a pitch deck to secure additional funding  
12 for Ultravision?

13 A. I don't recall, sir.

14 Q. Now, the timeline here starts in 2014. Does that

01:31PM

15 remind you that this document would have been presented  
16 in 2013?

17 A. No, sir, I don't know when this document was  
18 presented.

19 Q. Let's look back at Slide 2. We do know that it was  
20 created after 2011, though, right?

01:31PM

21 A. I started working with Active in 2011, so I assume  
22 so, yes, sir.

23 Q. All right. You see here that on the second slide of  
24 the presentation, Ultravision and Active describe only  
25 one revolutionary digital display. You see that?

01:32PM



1 A. Yes, sir.

2 Q. And the only revolutionary display that's being  
3 described in 2011 is the UltraPanel, right?

4 A. It says -- yes, sir, it says "LED digital displays."

01:32PM

5 Q. Now, in the time period of 2010 to 2012, it's fair  
6 to say that you don't have -- you haven't presented any  
7 design documents showing new products that were designed  
8 in that time frame, right?

9 A. I don't recall, sir.

01:32PM

10 Q. You haven't presented today any design documents for  
11 new products that were designed in 2010 to 2012, right?

12 A. Sir, I don't recall what documents have been  
13 presented. Apologize.

01:33PM

14 Q. Do you recall any -- you don't recall any specific  
15 design documents that show improvements to the old  
16 UltraPanel that were authored in the time frame of 2010  
17 to 2012, right?

18 A. Sir, I'm sorry. I don't recall.

01:33PM

19 Q. In 2012, you started working with an engineering  
20 firm called R. Scott Lewis; is that right?

21 A. Yes, sir. I don't recall the exact date, but I  
22 worked with Mr. Lewis for 15 years probably.

23 Q. In 2012, Mr. Lewis was preparing the design for some  
24 structural frames to hold panels in Times Square, right?

01:33PM

25 A. Yes, sir.

1 Q. Is that the Times Square panel that you earlier  
2 testified saved your customers \$2 million?

3 A. I don't recall exactly which display it was for.  
4 Mr. Lewis has done drawings for most of the displays  
01:34PM 5 that we've either done in New York or some throughout  
6 the United States.

7 Q. Now, in your work with Mr. Lewis in 2012, you  
8 actually e-mailed him pictures -- or CAD drawings of  
9 your UltraPanel, didn't you?

01:34PM 10 A. I don't recall, sir. Do you have a --

11 MR. McCARTHY: Can we look at DTX-960.

12 A. -- e-mail?

13 Q. This is a September 17th, 2012 e-mail from you to  
14 Mr. Lewis; is that right?

01:34PM 15 A. Yes, sir, I believe so.

16 Q. And the diagrams that you send to Mr. Lewis you say  
17 are for the original UltraPanel; is that right?

18 A. Yes, sir.

19 Q. And then can we look at Page 3.

01:35PM 20 This is a computer-generated drawing of the  
21 original UltraPanel, isn't it?

22 A. I believe so, yes, sir.

23 Q. So in 2012, you sent Mr. Lewis drawings of the  
24 original UltraPanel, fair?

01:35PM 25 A. I believe that's correct.

1 Q. Got it. Let's look at DTX-938. DTX-938 is an  
2 e-mail from you to Mr. Lewis dated July 1st, 2013. You  
3 see that?

4 A. Yes, sir.

01:35PM

5 Q. And you've attached to this e-mail two photos. Can  
6 we go to Page 1? That's a picture of the Shenzhen Only  
7 480 by 480, isn't it?

8 A. Yes, sir, I believe so.

01:36PM

9 Q. That's because Mr. Lewis was installing a -- was  
10 building a structural frame for you at 3 Times Square to  
11 hang the 480 by 480, right?

12 A. I believe that is correct, yes, sir.

13 Q. And the 480 by 480 is a Shenzhen Only product; is  
14 that correct?

01:36PM

15 A. Yes, sir, it was.

16 Q. You didn't provide design input into that product?

17 A. No, sir.

18 Q. And it had a plastic housing, didn't it?

19 A. Yes, sir.

01:36PM

20 Q. Let's turn to DTX-939. This is an e-mail from  
21 Mr. Lewis to you, right?

22 A. Yes, sir.

23 Q. And you see that it had a number of attachments?

24 A. Yes, sir.

01:36PM

25 Q. Can we go to Page 10. This is an engineering

1 drawing that was attached to that e-mail in June of  
2 2013, right?

3 A. I believe so, yes, sir.

4 Q. And this is an engineering drawing for a mounting  
01:37PM 5 screw to hang a 480 by 480 at 3 Times Square, right?

6 A. I believe it's a mounting method, yes, sir. I don't  
7 know about mounting screw, but it's -- yes, sir, it's a  
8 mounting method for the panels.

9 Q. It's a mounting method to hang the 480 by 480 at  
01:37PM 10 3 Times Square, right?

11 A. Yes, sir, I believe so.

12 Q. You see on the right side of the actual figure  
13 itself, there's an arrow, and it says "back of molded  
14 plastic housing"?

01:37PM 15 A. Yes, sir.

16 Q. The reason that there's a reference to a plastic  
17 housing there is because Mr. Lewis is hanging the 480 by  
18 480, which was plastic, right?

19 A. He is completing the -- he is completing the design  
01:38PM 20 drawings for that, yes, sir.

21 Q. All right. Now, on direct you talked about your  
22 relationship with Shenzhen Only. Remember that?

23 A. Yes, sir.

24 Q. And if we could take a quick look at DTX-368. This  
01:38PM 25 is the supplier agreement dated November 21st, 2013

1 between you and Shenzhen Only. Do you remember talking  
2 about this document?

3 A. Yes, sir.

01:38PM

4 Q. And you talked specifically about the specifications  
5 and technical information that are called out in the  
6 "New Technology Products" portion of this document?

7 A. Yes, sir.

01:38PM

8 Q. One of the new products that was developed under  
9 this agreement was the Shenzhen -- was the V-series,  
10 right?

11 A. Yes, sir, that's correct.

12 Q. Now, prior to this agreement sometime in late 2012,  
13 you had signed a nondisclosure agreement with  
14 Shenzhen Only, right?

01:39PM

15 A. I believe so, yes, sir.

16 Q. And after that nondisclosure agreement was signed,  
17 you sent, you sent some technical documents to  
18 Shenzhen Only via Dropbox, right?

19 A. Yes, sir, I believe that's correct.

01:39PM

20 Q. Can we look at DTX-961. The lower portion of the  
21 document is an e-mail from you to Mr. Wally Xiang at  
22 Shenzhen Only. You see that?

23 A. Yes, sir.

01:39PM

24 Q. And this is referencing the Dropbox documents that  
25 you sent, right?

1 A. Yes, sir.

2 Q. This document's dated November 13th, 2012, right?

3 A. Yes, sir.

4 Q. The documents that you sent to Mr. Xiang on November  
01:40PM 5 13th, 2012, were UltraPanel documents, weren't they?

6 A. I believe so, yes, sir.

7 Q. Can we look at DTX-962. It's my understanding that  
8 DTX-962 are the documents that you provided to  
9 Shenzhen Only in November 2012; is that right?

01:40PM 10 A. Sir, I don't recall all the documents that were sent  
11 to them. I don't recall if this is one of them.

12 Q. All the documents that were sent to them were turned  
13 over in this case, though, right?

14 A. No, sir. I have no way of verifying that.

01:41PM 15 Q. All documents that you're aware of were turned over  
16 in this case, right?

17 A. I turned over all my documents to our attorneys,  
18 yes, sir.

19 Q. All right. On Page 1 of DTX-962, do you recognize  
01:41PM 20 this as a document that was provided to Shenzhen Only on  
21 November 2012?

22 A. I'm sorry, sir. Can you ask that one more time?

23 Q. Sure. Do you recognize this as a document you sent  
24 to Shenzhen Only on November 11th, 2012?

01:41PM 25 A. This is one of our engineering documents from one of

1 the engineers. I don't recall if this was sent to  
2 Shenzhen Only during that time period, sir.

3 Q. Now, this is a proposed 14-by-48-foot sign. Do you  
4 see that?

01:42PM 5 A. Yes, sir.

6 Q. This was a sign that Ultravision LED was preparing  
7 for Clear Channel; is that fair?

8 A. Yes, sir.

9 Q. If you look down in the General Notes in the lower  
01:42PM 10 left-hand corner, it talks about how, at Note 5, the  
11 total weight of the LED frame and panels is  
12 approximately 5,500 pounds. You see that?

13 A. Yes, sir.

14 Q. So the proposed sign for Clear Channel of a 14-by-48  
01:42PM 15 sign was expected to weigh 5,500 pounds, fair?

16 A. I believe so, sir. That's what we have listed here.

17 Q. And this is for the original UltraPanel, right?

18 A. I believe so, yes, sir.

19 Q. Now let's look at Pages 2 and 3. Now, do you see  
01:43PM 20 that this is a picture of the UltraPanel, and it's also  
21 got the 576 and 288 number on it?

22 A. Yes, sir.

23 Q. You also see in the lower right-hand corner it says  
24 Exhibit C-25.02?

01:43PM 25 A. Yes, sir.

1 Q. Does that exhibit number refresh your recollection  
2 as to whether or not these are the documents you  
3 provided to Shenzhen Only via Dropbox?

4 A. No, sir.

01:43PM

5 Q. Can we look at Pages -- Page 4. You would agree  
6 with me that this is a CAD drawing for the original  
7 UltraPanel, right?

8 A. Yes, sir.

01:44PM

9 Q. Page 5. This too is a CAD drawing for the original  
10 UltraPanel, right?

11 A. Yes, sir.

12 Q. Page 6, also a CAD drawing for the original  
13 UltraPanel, right?

14 A. Yes, sir, I believe so.

01:44PM

15 Q. Now if we flip to Page 7, these are specifications  
16 for the original UltraPanel, right?

17 A. Yes, sir, they are.

18 Q. If we turn to Page 8, we also see specifications for  
19 the 20-millimeter UltraPanel, right?

01:44PM

20 A. I believe -- I believe that is correct, yes, sir.

21 Q. And skipping over to Page 9, this is just more of  
22 the specifications for 20-millimeter, right?

23 A. Yes, sir.

01:45PM

24 Q. Can we skip to Page 10. This is an engineering  
25 drawing for the original UltraPanel, isn't it?



1 A. I believe it is, yes, sir.

2 Q. If you look in the lower right-hand corner, you see  
3 that certain material is redacted there?

4 A. Yes, sir.

01:45PM 5 Q. Can we look at DTX-964 and skip to Page 10. You see  
6 in the lower right-hand corner of this drawing the name  
7 "Shenzhen LCJH" appears?

8 A. Yes, sir.

9 MR. McCARTHY: And then can we compare 964,  
01:46PM 10 Page 10, to 962, Page 10.

11 Q. Now, the only difference is, in these documents, is  
12 that the information in the lower right-hand corner has  
13 been redacted, right?

14 A. I believe that's correct, yes, sir.

01:46PM 15 Q. You don't know why that information was redacted?

16 A. No, sir.

17 Q. If we turn to Pages 11 and 12, these are potential  
18 frames for hanging the UltraPanel, right?

19 A. I believe so, yes, sir.

01:47PM 20 Q. And Exhibit DTX-962 is marked with the Exhibit  
21 Numbers C-25.01, and then the last page you can see  
22 C-25 --

23 MR. McCARTHY: Actually, why don't we pull up a  
24 different document.

01:47PM 25 Q. Do you recall that, via Dropbox, you sent

1 Shenzhen Only documents related to the UltraPanel?

2 A. Yes, sir. We sent them -- we set up the Dropbox to  
3 send them information.

4 Q. And besides documents related to the all-metal

01:48PM

5 UltraPanel, you don't recall sending them other design  
6 documents, right?

7 A. I recall sending them numbers of documents, but I  
8 don't recall which documents were sent to them. But we  
9 sent them as much as we had on specifications and

01:48PM

10 designs.

11 Q. Now, the documents besides what we just looked at in  
12 Exhibit C-25, you don't remember additional all-metal  
13 UltraPanel documents that were provided to Shenzhen Only  
14 as part of the V-series design process, right?

01:48PM

15 A. No, sir, I don't recall additional documents.

16 Q. This isn't surprising, though, because the V-series  
17 clearly evolved from the UltraPanel, didn't it?

18 A. The V-series was -- what I was trying to design is  
19 the next generation of trying to get to a modular LED  
20 display panel.

01:49PM

21 Q. You would agree with me that the V-series clearly  
22 evolved from the UltraPanel, right?

23 A. The V-series was my next attempt to design a modular  
24 LED display panel, yes, sir.

01:49PM

25 Q. Can we pull -- do you remember, as part of that

1 prior proceeding in 2016, you submitted witness  
2 statements, didn't you?

3 A. I believe so, yes, sir.

4 Q. Let's take a look at your July 28, 2016, reply  
01:50PM 5 witness statement at Paragraph 20.

6 MR. FABRICANT: Objection.

7 THE COURT: Yes, sir.

8 MR. FABRICANT: I believe that the statement  
9 that Mr. McCarthy is going to refer to is not

01:50PM 10 inconsistent at all with what Mr. Hall just testified  
11 to, so I don't think it's a proper attempt to impeach  
12 the witness.

13 THE COURT: He's entitled to make the attempt.  
14 If it misses, you're entitled to highlight that on  
01:50PM 15 redirect.

16 MR. FABRICANT: Thank your Honor.

17 THE COURT: Overruled. Let's proceed.

18 MR. McCARTHY: Can you take that down, please.

19 Q. Let's talk about your back-and-forth with  
01:51PM 20 Shenzhen Only. Can we look at PTX-1594. Now, we noted  
21 earlier that you provided Shenzhen Only with certain  
22 documents in November of 2012, right?

23 A. Yes, sir, I believe that's correct.

24 Q. And those are documents related to the original  
01:51PM 25 UltraPanel, right?

1 A. And any other design documents that we had to try to  
2 continue with the concept of developing a modular LED  
3 display panel.

01:52PM

4 Q. Sitting here today, the only documents you remember  
5 providing to Shenzhen Only, though, were original  
6 UltraPanel documents, right?

7 A. Sir, I said -- no, sir. I said earlier I don't  
8 recall all the documents that were sent to them.

01:52PM

9 MR. McCARTHY: I'm going to object as  
10 nonresponsive, your Honor.

11 THE COURT: Overruled. It's responsive. Let's  
12 move along.

01:52PM

13 Q. All right. In July of 2013, you notified  
14 Shenzhen Only that you understand it has a new panel  
15 that Shenzhen Only is designing, don't you?

16 A. Yes, sir, that's what it states here, yes, sir.

17 Q. Let's turn to DTX-272A, and go to the last page.  
18 This is an e-mail from Shenzhen Only to you dated  
19 October 30, 2013, right?

01:53PM

20 A. Yes, sir.

21 Q. And if we look back up at the attachment, it's  
22 computer-generated diagrams of what would become the  
23 V-series, right?

01:53PM

24 A. It's a photo -- excuse me. It's a photograph of --  
25 or, excuse me -- drawing of a LED display panel.

1 Q. And you didn't draw these, did you?

2 A. I don't believe we did, sir.

3 Q. And then if we turn to DTX-272B, we see that the  
4 next day, Shenzhen Only sent you a picture of the  
01:54PM 5 V-series, didn't they?

6 A. Yes, sir, I believe that's correct.

7 Q. If we turn to the last page -- sorry, Page 2. This  
8 is an e-mail from -- up to the top. This is an e-mail  
9 from Shenzhen Only to you dated October 31st, 2013,  
01:54PM 10 right?

11 A. Yes, sir, I believe that's correct.

12 Q. And can we look back at Page 1 of DTX-272B. There's  
13 no power box in this photo, is there?

14 A. No, sir, there does not appear to be.

01:55PM 15 Q. At the end of 2013, the V-series design was not  
16 complete, right?

17 A. At the end of -- I'm sorry, sir. Could you ask that  
18 question again?

19 Q. At the end of 2013, the V-series design wasn't  
01:55PM 20 completed yet, right?

21 A. No, sir, I do not believe so.

22 Q. Let's turn to DTX-317. Go to the top, please. This  
23 is an e-mail from January of 2014, from Shenzhen Only to  
24 Ultravision, right?

01:56PM 25 A. Yes, sir.

1 Q. And if we turn to Page 7, we can see that this has  
2 more completed figures of the V-series, including a  
3 power box, right?

4 A. Yes, sir, I believe that's what the drawing that --  
01:56PM 5 yes, sir, that shows the power boxes.

6 Q. And you didn't draw these, did you?

7 A. No, sir, I don't believe we did.

8 Q. Let's look at DTX-317B, at the top. This is another  
9 e-mail from January 2014, from Shenzhen Only to

01:56PM 10 Ultravision, right?

11 A. Yes, sir.

12 Q. And if we take a look at Page 5, we can see that  
13 this is a mounting structure for the V-series, right?

14 A. I believe so, yes, sir.

01:57PM 15 Q. Can we take a look at DTX-272C and turn to Page 3.  
16 This is also an e-mail from Shenzhen Only to  
17 Ultravision, right?

18 A. Yes, sir.

19 Q. And if we flip back to Page 1, this shows a complete  
01:57PM 20 electronic hookup for the V-series, doesn't it?

21 A. I believe so, yes, sir. It shows the electrical  
22 connections.

23 Q. But you didn't draw this, either, right?

24 A. I don't recall, but I don't believe so, sir.

01:58PM 25 Q. By March of 2014, you were purchasing V-series

1 products from Shenzhen Only, right?

2 A. Yes, sir, I believe so.

3 Q. Let's take a look at DTX-274. This is also an  
4 e-mail from Shenzhen Only to Ultravision, right?

01:58PM

5 A. Yes, sir.

6 Q. If we turn to the second page, this is a design  
7 schematic for the housing of the V-series, right?

8 A. I believe that's correct, yes, sir.

9 Q. And as we saw on the first page, this was attached  
10 to an e-mail in March of 2014, right?

01:58PM

11 A. I believe so, sir.

12 Q. Let's flip to DTX-272D. Go to the body of the  
13 e-mail, please, Page 8. Now, we see that Mr. Necastro  
14 has sent an e-mail to Shenzhen Only on April 28, 2014,  
15 right?

01:59PM

16 A. Yes, sir.

17 Q. And Mr. Necastro describes himself as an electrical  
18 engineer that recently started working with Ultravision;  
19 is that right?

01:59PM

20 A. Yes, sir.

21 Q. And Mr. Necastro was an electrical engineer that  
22 worked with Ultravision, right?

23 A. Yes, sir.

24 Q. And Mr. Necastro wrote to Shenzhen Only and said,  
25 "What I'm looking for is anything along the lines of

01:59PM

1 technical specifications, schematic drawings, physical  
2 layouts, or anything else that you can provide for the  
3 display panels."

4 You see that?

02:00PM

5 A. Yes, sir.

6 Q. And Mr. Necastro went to Shenzhen Only for this  
7 information, not to you, right?

8 A. It appears that he sent this e-mail to Shenzhen Only  
9 for information, yes, sir.

02:00PM

10 Q. And you also see that he's trying to gather as much  
11 of this information as possible so he can get a better  
12 understanding of the equipment Ultravision was using.

13 You see that?

14 A. Yes, sir, that's what it says.

02:00PM

15 Q. And if you look up at Page 7, Shenzhen Only sent  
16 Ultravision six attachments at that point, which was  
17 May 5th, 2014. You see that?

18 A. Yes, sir.

19 Q. And all those attachments were -- if we go through  
02:00PM 20 Pages 1 through 6. You see those attachments now,  
21 Mr. Hall?

22 A. Yes, sir.

23 Q. And those attachments are design drawings for the  
24 V-series, right?

02:01PM

25 A. I believe so, yes, sir.



1 Q. You previously said that Shenzhen Only contributed  
2 to the incasing design of the V-series, right?

3 A. I'm sorry, sir. I don't understand your question.

4 Q. You'd agree with me that Ultravision Holdings  
02:02PM 5 acknowledges that Shenzhen Only played a role in the  
6 design of the new incasing for the V-series panels,  
7 right?

8 A. No, sir, I don't believe I do.

9 Q. Can we take a look at your witness statement dated  
02:02PM 10 May 8th, 2016, at Paragraph 29.

11 You see the first sentence of Paragraph 29  
12 you stated, "Ultravision Holdings acknowledges that  
13 Shenzhen Only played a role in the design of the new  
14 incasing for the V-series panels"? You see that?

02:02PM 15 A. Yes, sir.

16 Q. That was a statement you made in your sworn witness  
17 statement?

18 A. Yes, sir.

19 Q. Now, earlier -- you would also agree with me that  
02:03PM 20 the V-series clearly evolved from the UltraPanel, didn't  
21 it?

22 A. Sir, to best answer your question, it was my -- the  
23 next generation of my design to try to design modular  
24 LED display panels.

02:03PM 25 So to directly answer your question, no,

1 sir. I was trying to design the next evolution in the  
2 modular LED display panels.

3 Q. Can we look at your July 28, 2016 reply witness  
4 statement at Paragraph 20.

02:04PM

5 MR. McCARTHY: Please take that down.

6 Q. You'd agree with me that the only meaningful  
7 differences between the old UltraPanel and the V-series  
8 are that the V-series was made out of plastic and that  
9 it had a power box outside the housing, right?

02:04PM

10 A. No, sir.

11 Q. Can we take a look at your May 8, 2016  
12 arbitration -- witness statement, Paragraph 27.

13 And you see in this witness statement you  
14 stated that the V-series panels are, in fact,  
15 essentially a variation of the UltraPanel with an  
16 industrial plastic as opposed to aluminum casing and a  
17 power box protruding from the back rather than being  
18 located wholly inside the casing?

02:05PM

19 A. Yes, sir, that's what it states.

02:05PM

20 Q. And that was your witness statement, right?

21 A. Yes, sir, I believe so.

22 Q. Now let's talk about -- you would agree with me that  
23 when you first started working with Shenzhen Only in  
24 2012, you wanted an aluminum casing, right?

02:06PM

25 A. No, sir.

1 Q. You would not agree -- you don't agree that you  
2 originally wanted an aluminum casing?

3 A. No, sir.

4 Q. Can we look at the prior proceeding transcript on  
5 Day 4 at Page 176, Lines 8 to 11.

6 And you see there you were asked a  
7 question: "Do you remember you ever provided any  
8 information regarding the casing, like material or  
9 design or anything like that?"

10 And you stated, "We originally wanted an  
11 aluminum casing."

12 That was your testimony, right, sir?

13 A. I believe so. That's what it says.

14 Q. And it was Shenzhen Only that wanted a plastic  
15 casing, right?

16 A. I do not recall that, sir. It was our intent to use  
17 plastic.

18 Q. Now, Shenzhen Only thought that a plastic casing was  
19 more cost effective, right?

20 A. I do not recall that, sir.

21 Q. Can we look at your prior proceeding transcript on  
22 Day 4 at Page 176, Lines 12 through 19. And you see  
23 there, you were asked the question: "It's your position  
24 you told them about using an aluminum casing?"

25 And you said: "Yes."

1 And then the question was posed: "But they  
2 didn't use that?"

3 And you said: "No."

4 And then you were asked: "Do you know why?"

02:08PM 5 And you said: "They thought it was more  
6 cost-effective to go to the plastic casing."

7 That was your testimony, right?

8 A. Yes, sir, I believe that is my testimony.

9 Q. And then you testified about DTX-435 on direct.

02:08PM 10 This is an e-mail from you to Shenzhen Only, right?

11 A. Yes, sir.

12 Q. And in January of 2014, you told Shenzhen Only that  
13 the order has to be for aluminum panels, right?

14 A. Yes, sir, that's what this e-mail says.

02:09PM 15 MR. McCARTHY: We can take that down.

16 Q. Now, you're not aware of anything in writing showing  
17 anything -- showing any desire by you to use a plastic  
18 casing on any housing, are you?

19 A. I don't recall, sir.

02:09PM 20 Q. You testified on direct that you filed your first  
21 patent application on December 31st, 2013. Remember  
22 that?

23 A. Yes, sir. That was the provisional, yes, sir.

02:10PM 24 Q. Can we look at DTX-17, Page 34. This is Figure 3B  
25 of your provisional, isn't it?

1 A. I believe so, yes, sir.

2 MR. McCARTHY: Can we compare that to  
3 DTX-0962\_004.

02:10PM

4 Q. And you testified earlier that the figure on the  
5 right is the old UltraPanel, right?

6 A. I believe so, yes, sir.

7 MR. McCARTHY: Let's look at Figure 9C from the  
8 provisional which appears on Page 48. Can we compare  
9 that to DTX-939 at Page 10.

02:11PM

10 Q. And the figure on the right is a mounting method for  
11 the Shenzhen Only 480 by 480, isn't it?

12 A. I believe so, yes, sir.

13 Q. Let's look at Paragraph 29 of your first  
14 provisional. You see at Paragraph 29, it says that, "In  
15 the present example, the housing 300 may be made of a  
16 thermally conductive material, for example, aluminum,  
17 that is relatively lightweight and rigid"?

02:11PM

18 A. Yes, sir.

19 Q. And that's how you described the housing of the  
20 invention at your first patent filing, right?

02:12PM

21 A. It appears to be, yes, sir.

22 Q. And that was, again, on New Year's Eve, 2013, right?

23 A. I believe so, yes, sir.

24 Q. Now, you filed an amended application in July of  
25 2014, right?

02:12PM

1 A. Yes, sir.

2 MR. McCARTHY: Can we pull up DTX-18.

3 Q. DTX-18 is that July 2014 filing, isn't it?

4 A. I believe so, yes, sir.

02:12PM

5 MR. McCARTHY: Now, if we look down at Figure  
6 25B, and can we compare that to DTX-274.

7 Q. Figure 25B was newly added to your provisional in  
8 July of 2014, right?

02:13PM

9 A. No, sir. I'm sorry. I don't believe this is a  
10 provisional. This is -- the July '14? No, sir, I don't  
11 believe this is the provisional. This is the final  
12 patent application.

02:13PM

13 MR. McCARTHY: We can look back at the -- I  
14 believe -- why don't we look at the cover of PTX-1, and  
15 can we go down to the actual specification. It's going  
16 to be after -- there, in the upper left-hand corner  
17 where it says, "Paragraph 60."

18 Q. You see these patents stem from, at the end, a first  
19 provisional filed on December 31st, 2013?

02:14PM

20 A. Yes, sir.

21 Q. And then there was an amended provisional filed on  
22 July 16th, 2014. You see that?

23 A. Yes, sir.

02:14PM

24 Q. And the July 16th, 2014 provisional is what we were  
25 looking at as DTX-18.

1 A. Okay. Yes, sir.

2 Q. Now, Figure 25B doesn't appear in your first  
3 provisional, right?

4 A. No, sir, I don't believe so.

02:15PM 5 Q. It was added, in July of 2014, to that patent  
6 filing, right?

7 A. I believe that's correct, yes, sir.

8 Q. And then the figure on the right you testified  
9 earlier was a figure drawn by Shenzhen Only that  
02:15PM 10 Ultravision received in March of 2014, right?

11 A. I believe that's correct, yes, sir.

12 MR. McCARTHY: And then can we also look at  
13 Figure 21C, which is at DTX-18\_00136.

14 Q. I want to compare that to the figures that were sent  
02:15PM 15 to Mr. Necastro in May of 2014, which is DTX-272D\_003.  
16 You see that?

17 A. Yes, sir, I see the two drawings.

18 Q. And you testified earlier that the figure on the  
19 right was received by Ultravision in May of 2014, right?

02:16PM 20 A. I'm sorry, sir. Do I recall the figure on the  
21 right?

22 Q. Sorry. The figure on the left is the drawing that  
23 was received by Ultravision in May of 2014, right?

24 A. I believe so, sir, yes, sir.

02:16PM 25 Q. And the figure on the right is from your second

1 provisional, right?

2 A. I believe so, yes, sir.

3 Q. And that figure on the right was not included in  
4 your New Year's Eve 2013 filing, right?

02:16PM 5 A. I don't -- I don't believe so, sir.

6 Q. Now, if we turn to DTX-18 -- Page 15 of DTX-18, and  
7 I want to look at Paragraph 78 and compare that to  
8 Paragraph 29, which we just looked at of the first  
9 provisional. You see that everything in the these two

02:17PM 10 paragraphs is the same except in Paragraph 78 of the new  
11 filing of July 2014, you've added, "In the present  
12 example, the house may be made" -- no, you see at the  
13 end you've added that the housing could be made out of  
14 industrial plastic?

02:18PM 15 A. Yes, sir, that's what it says.

16 Q. When you filed your patent application in December  
17 of 2017 -- or 2013, you didn't include that the housing  
18 could be plastic; but then in the middle of 2014, you  
19 did add that the housing could be made out of plastic,  
02:18PM 20 right?

21 A. That -- yes, sir, that appears to be what the patent  
22 applications say.

23 Q. Now, for each of the three patents that are at issue  
24 here, you signed inventor declarations, right?

02:18PM 25 A. Yes, sir.



1 Q. And you understand that you were under a sworn duty  
2 to disclose everything known to you to the patent --  
3 everything relevant to patenting to the patent office at  
4 the time of filing, right?

02:18PM

5 A. Yes, sir.

6 Q. And you were also under an obligation to disclose  
7 any parties that should have been joint inventors with  
8 you, right?

9 A. Yes, sir.

02:19PM

10 Q. Now, it's fair to say that the patent office was not  
11 told anything about LianTronics at the time the patents  
12 were filed, right?

13 A. I -- sir, I don't know. We turned -- I'm trying to  
14 answer directly. Could you answer -- ask your question  
15 again, sir?

02:19PM

16 Q. Sure. You agree with me that nothing related to  
17 LianTronics appears on the cover of your patent filings,  
18 right?

19 A. Yes, sir.

02:19PM

20 Q. And that means that nothing related to LianTronics  
21 was disclosed to the patent office as part of patent  
22 filing, right?

23 A. I don't know exactly, sir, but, yes, sir, I believe  
24 I agree.

02:19PM

25 Q. And Shenzhen Only also doesn't apply anywhere on the

1 cover of the patent filings, right?

2 A. No, sir.

3 Q. And that likewise means that the patent office  
4 wasn't told anything about Shenzhen Only during the  
02:20PM 5 filing of your patents, right?

6 A. I don't believe so, sir.

7 Q. Okay. Let's look at DTX-6, which I believe is the  
8 '782 Patent. Actually, can we turn and look at DTX-937.  
9 This is an e-mail from Mr. Van Houtan, dated

02:20PM 10 September 11, 2008. Do you see that?

11 A. Yes, sir.

12 Q. It's an e-mail to Frank Voss, isn't it?

13 A. Yes, sir.

14 Q. And Frank Voss was working with you on designing the  
02:21PM 15 Clear Channel sign that we discussed earlier, right?

16 A. Yes, sir. He was outside engineer.

17 Q. And can we turn to the attachment on this document  
18 at Page 5. You would agree with me that these are CAD  
19 drawings for the original UltraPanel, right?

02:21PM 20 A. I believe so, yes, sir.

21 Q. Now let's pull back up DTX-6, which is the '782  
22 Patent. Can you look at Figure 3D, which is on Page 11,  
23 and let's compare that to the original UltraPanel  
24 drawing attached to Mr. Van Houtan's e-mail, which is  
02:22PM 25 the upper right-hand corner drawing.

1           So the picture on the right is the original  
2 UltraPanel, and the picture on the left appears as an  
3 embodiment of your invention in the '782 Patent, right,  
4 Mr. Hall?

02:22PM 5     A.    I believe so, yes, sir.

6     Q.    Can we turn to Page 10 of DTX-6, and let's compare  
7 that to the middle left CAD drawing that Mr. Van Houtan  
8 attached to his e-mail. The picture on the right is the  
9 UltraPanel, and the picture on the left is an embodiment  
02:22PM 10  of your invention as disclosed in your '782 Patent,  
11 right, Mr. Hall?

12    A.    Yes, sir.

13    Q.    Can we compare Figure 3E at Page 12 to  
14 Mr. Van Houtan's drawing in the upper left-hand corner.  
02:23PM 15  The picture on the left is the UltraPanel, right, and  
16 the picture on the right is an embodiment of your  
17 invention as disclosed in your '782 Patent, right?

18    A.    Yes, sir, I believe so.

19    Q.    Now, we just mentioned that 14-by-48 display sign  
02:23PM 20  that you were doing for Clear Channel. Do you remember  
21 that?

22    A.    Yes, sir.

23    Q.    Can we pull up -- and it was estimated to be a  
24 5,500-pound sign, right?

02:23PM 25    A.    I believe that was correct, sir.

1 Q. And that was for a 20-millimeter UltraPanel, right?

2 A. I believe that was correct, sir.

3 Q. Can we look back at DTX-6, at Page 71, specifically  
4 Column 5, Lines 19 through 25?

02:24PM

5 You see that it says, "Displays of the present  
6 invention can be designed," and then it goes on to note,  
7 "A 20-millimeter sign, 14 by 48 feet at 5,500 pounds"?

8 A. I'm sorry, sir. Could you ask your question again?

02:24PM

9 Q. Yes. Do you see that the patent describes, as a  
10 display of the present invention, a 20-millimeter  
11 display of a size 14 by 48 feet that can weigh 5,500  
12 pounds?

13 A. Yes, sir.

02:25PM

14 Q. Can we take a look at Figure 12D -- actually, let's  
15 turn to DTX-263. These are electrical drawings for the  
16 all-metal UltraPanel that were drawn by Mr. Van Houtan,  
17 aren't they?

18 A. I don't recall, sir.

02:25PM

19 Q. You don't know what this drawing is? Is that your  
20 testimony?

21 A. They appear to be electrical drawings. I don't  
22 recall who, who drew the drawings.

23 Q. Okay. If we look in the lower right-hand corner,  
24 you see Mr. Van Houtan's name?

02:25PM

25 A. Yes, sir.

1 Q. You'd agree with me that Mr. Van Houtan drew these  
2 drawings, right?

3 A. I believe so. That's what the drawing says, yes,  
4 sir.

02:26PM 5 Q. Okay. But you don't know who drew these drawings?  
6 That's your testimony?

7 A. No, sir.

8 Q. Can we compare DTX-6 at Page 36, 12D to this  
9 drawing? Do you see that on the left is a figure from  
02:26PM 10 your patent, Figure 12D. Do you see that?

11 A. Yes, sir.

12 Q. And then on the right is the drawings that you don't  
13 know who they drew, right?

14 A. Yes, sir.

02:26PM 15 Q. All right. Can we turn back to DTX-6\_48. And you  
16 see that the same Figure 25B that we talked about with  
17 respect to your provisional also made it into your  
18 patents?

19 A. I'm sorry, sir. Could you please repeat the  
02:27PM 20 question?

21 Q. Do you remember we talked earlier about a Figure 25B  
22 in your second provisional?

23 A. Yes, sir.

24 Q. And that Figure 25B that we talked about with  
02:27PM 25 respect to the provisional was also put in your issued

1 patent; is that fair?

2 A. I believe that's correct, yes, sir.

3 Q. Now, you testified -- can we look at the last figure  
4 of the patent, DTX-6 at Page 68. This is a picture of  
5 the Shenzhen Only 480 by 480, isn't it?

02:28PM

6 A. Yes, sir.

7 Q. And you testified earlier in prosecuting the  
8 patents, you gave everything that you had to your  
9 attorneys. Remember that?

02:28PM

10 A. Yes, sir.

11 Q. Now, in providing information to your attorneys, the  
12 only product designs that you disclosed to your patent  
13 attorneys for drafting these patents were for these  
14 three products, right: the UltraPanel, the V-series,  
15 and the 480 by 480?

02:28PM

16 A. Sir, I don't recall everything that we gave to the  
17 patent attorneys.

18 Q. You would agree with me that aside from drawings  
19 related to these three products, you don't remember  
20 giving them design information for any other products,  
21 right?

02:29PM

22 A. I don't -- I don't recall, sir.

23 Q. Thank you, Mr. Hall.

24 THE COURT: Are you passing the witness,  
25 counsel?

02:29PM

1 MR. McCARTHY: Yes, your Honor, pass the  
2 witness.

3 THE COURT: Is there redirect, Mr. Fabricant?

4 MR. FABRICANT: Yes, there is, your Honor.

02:29PM

5 THE COURT: Please proceed.

6 REDIRECT EXAMINATION

7 BY MR. FABRICANT:

8 Q. Good afternoon, Mr. Hall.

9 A. Hello.

02:29PM

10 MR. FABRICANT: If you could bring up, please,  
11 Mr. Thompson, PTX Number 9 and go to Page 20 of 32.  
12 Page 20 of 32.

13 Your Honor, I'll go to the ELM0, the  
14 old-fashioned way.

02:30PM

15 Q. Mr. Hall, I show you Plaintiff's Exhibit Number 9,  
16 which is the provisional application?

17 A. Yes, sir.

18 Q. And this is the application filed on what  
19 Mr. McCarthy referred to as New Year's Eve in 2013. Do  
20 you recall that?

02:30PM

21 A. Yes, sir.

22 Q. And I think Mr. McCarthy was suggesting to you that  
23 there was nothing in that application that advised the  
24 patent office that you intended plastic to be part of  
25 your invention. Wasn't that the thrust of his questions

02:31PM

1 to you?

2 A. Yes, sir.

3 Q. And then he showed you some later drawings from  
4 later in 2014, in which you amended the application, and  
02:31PM 5 he suggested you added plastic; isn't that right?

6 A. Yes, sir.

7 Q. So I'd like to focus on a few portions of the  
8 provisional in December of '13. Do you see where my pen  
9 is pointing, it says, "Plastic housing of LED panel"

02:31PM 10 right in the provisional, right under New Year's Eve of  
11 2013? Do you see that, sir?

12 A. Yes.

13 Q. So did you put the patent office on notice that  
14 plastic housing was one element of what you intended to  
02:31PM 15 include in your application for the United States  
16 patent, sir?

17 A. Yes, sir.

18 Q. And then I'll flip over to the other side, and I  
19 believe there's a spot here that says, "Back of molded  
02:32PM 20 plastic housing." Do you see that, sir?

21 A. Yes, sir.

22 Q. And is this the application which you directed your  
23 patent attorney to file for the United States patent  
24 office on December 31, 2013, sir?

02:32PM 25 A. I believe so, yes.



1 MR. FABRICANT: Please bring up DTX-435.

2 Q. Mr. Hall, you were also asked by Mr. McCarthy  
3 whether it was true, in fact, that you didn't want  
4 plastic; you wanted aluminum? And I just wanted to make  
02:32PM 5 sure the subject is clear based upon your testimony.

6 THE COURT: Ask a question, counsel.

7 Q. This is --

8 MR. FABRICANT: Yes, your Honor.

9 Q. This is Exhibit DTX-435. This is something you  
02:33PM 10 wrote to Mr. Wally Xiang at Shenzhen Only; is that  
11 correct?

12 A. I believe so, yes, sir.

13 Q. And if we could scroll down. Do you recall this  
14 morning you were asked about a particular document with  
02:33PM 15 respect to a particular order where you were asking for  
16 aluminum? Do you remember those questions?

17 A. Yes, sir.

18 Q. And is this that document?

19 A. I believe it is, yes, sir.

02:33PM 20 Q. And what customer had given you a large order?

21 A. It was a customer by the name of Superior Digital  
22 Displays in Times Square.

23 Q. And who had required that that order be made in  
24 aluminum, not plastic?

02:33PM 25 A. The customer did.

1 Q. And did you ever mean this to indicate to  
2 Shenzhen Only that you had no desire for plastic  
3 housings?

4 A. No, sir.

02:33PM

5 Q. I'd like to show you Defendant's Exhibit DTX-417 at  
6 Page 00004. Do you recall you were asked some questions  
7 by Mr. McCarthy about whether statements that you had  
8 made in some of your sales material were accurate, and I  
9 believe you answered his question, so I have a few

02:34PM

10 follow-up questions to that.

11 At the top of this page on the right, what does  
12 it say?

13 A. "US China partnership."

14 Q. And who was your partnership with at that time?

02:34PM

15 LianTronics?

16 A. I believe it was LianTronics, yes, sir.

17 Q. And who had the major manufacturing headquarters in  
18 Shenzhen, China?

19 A. LianTronics.

02:34PM

20 Q. Do you think, in any way, shape or form, that the  
21 people you handed this to in the United States believed  
22 that you owned a factory in Shenzhen, China?

23 A. No, sir.

24 Q. And then if you could go to Page 5 of this same

02:35PM

25 exhibit. Mr. McCarthy also showed you the reference to

1 the state-of-the-art manufacturing facility located in  
2 Shenzhen, China. What were you referring to in this  
3 particular document?

02:35PM

4 A. I believe we were referring to the LianTronics  
5 factory in Shenzhen, China.

6 Q. Do you believe that these marketing materials  
7 intended to convey to your customers that you had a  
8 500,000-square-foot factory in Shenzhen, China?

02:35PM

9 A. No, sir. Just that that's where they were being  
10 manufactured.

11 Q. Or that you had Chinese manufacturing expertise? Do  
12 you think that's what it conveyed to your reader?

13 A. No, sir.

02:35PM

14 Q. Now, earlier, before the lunch break, you were asked  
15 some questions about your early dealings with the  
16 LianTronics company.

17 A. Yes, sir.

02:36PM

18 Q. And you were shown a number of things and statements  
19 and other documents and asked repeatedly whether your  
20 invention was created, but you believe your invention  
21 was created in April of 2007, when Mr. McCarthy  
22 suggested to you that you started Ultravision LED. Do  
23 you remember those questions?

24 A. I do remember those questions, yes, sir.

02:36PM

25 Q. Is it true that you started Ultravision LED, the

1 company, in April of 2007?

2 A. No, sir. It was -- we started Ultravision LED in  
3 spring of 2006. I believe it was April/May of 2006.

4 Q. What kind of an entity is Ultravision LED?

02:36PM 5 A. It's an LLC.

6 Q. And is it incorporated in a state?

7 A. Yes, sir.

8 Q. And where is it incorporated?

9 A. In the state of Texas.

02:36PM 10 Q. When was it incorporated?

11 A. May of 2006.

12 Q. So you actually started the company in May of 2006,  
13 not April of 2007, as Mr. McCarthy suggested; is that  
14 right?

02:37PM 15 A. That's correct, yes, sir.

16 Q. And when, based on the best of your recollection,  
17 did you actually have this first idea, the light bulb  
18 that went over your head that you wanted to make this  
19 display module without cabinets that was lightweight and  
02:37PM 20 that was modular? When did that light bulb first go  
21 off?

22 A. Years of putting up LED displays at BillBoard Video  
23 and cabinets and the special designs that we had to do.

24 I mean, it was always my goal when I started

02:37PM 25 Ultravision LED to try to solve those problems and try

1 to create a digital display panel, a modular LED display  
2 panel that would overcome all the problems of the  
3 cabinets.

02:37PM

4 Q. Well, let me ask you this: Did you decide to go  
5 forward and try to develop this product before you  
6 formed the company in May of 2006?

02:38PM

7 A. Yeah. It was always an idea or a concept. That's  
8 why I formed the company. That's why I started the  
9 company, to start trying to work on a new concept and a  
10 new design.

11 Q. I'd like to show the witness DTX-208. Do you recall  
12 that Mr. McCarthy showed you Exhibit 208, which was a  
13 supplier agreement with LianTronics? Do you recall  
14 this?

02:38PM

15 A. Yes, sir.

16 Q. And I believe, at the time, you wanted to say  
17 something about whether this contract was ever signed.  
18 Did you want to say something on that, sir?

02:38PM

19 A. Yeah. Yes, sir. I don't believe this contract, the  
20 supplier agreement, was ever signed by us. It was sent  
21 to us by LianTronics, and it was never signed by  
22 Ultravision.

02:39PM

23 Q. So from a timeline standpoint, I just want to see if  
24 I can clarify your testimony. You started LED in May of  
25 2006, or thereabouts?

1 A. Yes, sir.

2 Q. And we have a contract before us, or at least  
3 purported contract, dated April of --

4 MR. McCARTHY: Your Honor, objection.

02:39PM 5 THE COURT: What's your objection, counsel?

6 MR. McCARTHY: Leading, your Honor.

7 THE COURT: Sustained.

8 Restate your question in a nonleading form.

9 MR. FABRICANT: I will, your Honor.

02:39PM 10 Q. How did this document, which is before you as  
11 DTX-208, dated April 30, 2007, get prepared? Do you  
12 know?

13 A. I started traveling to China with my ideas and  
14 concepts even before I started the company. So I  
02:39PM 15 started traveling to China, having the meetings, trying  
16 to convey what I was trying to accomplish even before I  
17 started the company.

18 Q. Can you tell me how many trips you took to China  
19 before you were provided with a contract or a draft of a  
02:40PM 20 contract dated April 30, 2007?

21 A. Several. I mean, this was after several meetings in  
22 China. I mean, I had already met with many other  
23 suppliers in China at this time; I toured many factories  
24 and had had, you know, several meetings with LianTronics  
02:40PM 25 before this contract was ever proposed.

1 Q. If we could go to the end of the exhibit to where  
2 the signature block is put. Mr. Hall, is your signature  
3 found on Exhibit 208?

4 A. No, sir.

02:40PM

5 Q. How did you do business with LianTronics if you  
6 didn't sign this contract?

02:41PM

7 A. We just continued to work with them and we paid them  
8 for the molds and we paid for the original shipment of  
9 the panels. But, you know, we continued to work with  
10 them to build the first product, the UltraPanel product.

11 Q. Could you tell me how many times before  
12 November 15, 2006, you attended your meetings in China  
13 with LianTronics?

02:41PM

14 A. No, sir. Many. I mean, many trips to China from  
15 the very beginning of 2006 and even before we formed the  
16 company. Many, many trips.

17 Q. Mr. Hall, do you believe that the UltraPanel, the  
18 one that was made in China by LianTronics, is your  
19 invention?

02:41PM

20 A. No, sir. It didn't meet any of the ultimate goals  
21 that we were trying to accomplish. Unfortunately, the  
22 panel was not truly modular; it had a primary and a  
23 secondary; it had -- it leaked; when the aluminum  
24 expanded, it leaked; and it was not IP67 rated. It  
25 didn't accomplish any of the goals that we had set out

02:42PM

1 to -- that I had set out to try to accomplish when I  
2 started the company.

02:42PM

3 Q. At any time during your working relationship with  
4 LianTronics, was there any version, any model, any  
5 prototype of the UltraPanel which was plastic?

6 A. No, sir.

7 Q. Was there any portion or model or design of the  
8 LianTronics version of the UltraPanel which had plastic  
9 thermal conductors in it?

02:42PM

10 A. No, sir.

11 MR. FABRICANT: Your Honor, I pass the witness.

12 THE COURT: Further direct examination,  
13 Mr. McCarthy?

14 MR. McCARTHY: Two minutes, if I may, your  
15 Honor.

02:43PM

16 THE COURT: It's your time. Proceed with  
17 redirect.

18 RECROSS EXAMINATION

19 BY MR. McCARTHY:

02:43PM

20 Q. On redirect, Mr. Hall, you were asked about some of  
21 the statements related to manufacturing facilities in  
22 China. Do you remember that?

23 A. Yes, sir.

24 Q. Can we look at DTX-412 at Page 34. You see at the  
25 top there it says, "In April 2007, Ultravision Media

02:43PM



1 constructed an architectural, state-of-the-art  
2 manufacturing facility"?

3 A. Yes, sir, that's what it says.

4 Q. No ambiguity there, is there?

02:43PM

5 A. That's what it states, yes, sir.

6 MR. McCARTHY: All right. And then can we look  
7 at the provisional, which is DTX-17, at Page 50. Rotate  
8 that figure and zoom in on the portion that

02:44PM

9 Mr. Fabricant highlighted as disclosing a plastic  
10 housing to the patent office.

11 Q. Do you remember testifying to that on redirect,  
12 Mr. Hall?

13 A. Yes, sir.

02:44PM

14 MR. McCARTHY: Can we pull up as a side-by-side  
15 DTX-939 at Page 11. Zoom in on that same while --

16 Q. DTX-939, you testified to me on cross, is a drawing  
17 provided by Mr. Lewis for hanging the Shenzhen Only  
18 480 by 480 at 3 Times Square. Do you remember that?

19 A. Yes, sir.

02:45PM

20 Q. And you also testified to me that the 480 by 480 is  
21 a Shenzhen Only product, right?

22 A. I believe so, yes, sir.

23 Q. You had no design input into that product, right?

02:45PM

24 A. I don't recall that we had design input on that  
25 product, no, sir.

1 Q. And the 480 by 480 was a Shenzhen Only product with  
2 plastic, right?

3 A. Yes, sir.

02:45PM

4 Q. And if we zoom out, the figure on the right is the  
5 engineering drawing from Mr. Lewis, right?

6 A. Yes, sir.

7 Q. And then the same drawing appears in your  
8 provisional at Figure 9C on the left, right?

9 A. Yes, sir.

02:45PM

10 Q. So the disclosure of a plastic housing in your  
11 provisional was actually the disclosure of the plastic  
12 housing for Shenzhen Only's 480 by 480, right?

13 A. The disclosure was of a plastic housing.

02:45PM

14 Q. And the plastic housing that's referred to right  
15 there is the Shenzhen Only 480 by 480, right?

16 A. It's -- yes, sir, I believe it's the same drawing.

17 MR. McCARTHY: I pass the witness, your Honor.

18 THE COURT: All right. Let me correct the  
19 record. That was recross, not redirect.

02:46PM

20 Further direct, Mr. Fabricant?

21 MR. FABRICANT: Yes, sir.

22 THE COURT: All right.

23 REDIRECT EXAMINATION

24 BY MR. FABRICANT:

02:46PM

25 Q. Do you have an understanding, when a figure is

1 contained in a patent application, what that figure  
2 indicates?

3 A. I believe so, yes.

4 Q. What is your understanding?

02:46PM

5 A. It's a drawing or a figure in the patent, but the  
6 actual -- let's see, the actual -- the claims were  
7 actually based on the written document, not the figures  
8 in the claim.

02:46PM

9 Q. Do the figures set forth examples of what you could  
10 do with the invention?

11 A. Yes, sir, they're examples, but the written document  
12 is the actual claims in the patents.

13 MR. FABRICANT: Nothing further, your Honor. I  
14 pass the witness.

02:47PM

15 THE COURT: Additional cross-examination,  
16 Mr. McCarthy?

17 MR. McCARTHY: No, your Honor. Thank you.

18 THE COURT: All right. You may step down,  
19 Mr. Hall.

02:47PM

20 Plaintiff, call your next witness.

21 MR. FABRICANT: Your Honor, our next witnesses  
22 will be played by videotape.

23 THE COURT: Deposition witnesses?

24 MR. FABRICANT: Yes, your Honor.

02:47PM

25 THE COURT: Identify your first deposition

1 witness, please.

2 MR. FABRICANT: Mr. Shea will identify the  
3 witness, your Honor.

4 THE COURT: All right.

02:47PM

5 MR. SHEA: May I proceed?

6 THE COURT: Yes.

7 MR. SHEA: Plaintiff calls, by his 2018  
8 deposition, Matthew Foster, Vice President of  
9 Engineering at Ultravision. Plaintiff's runtime is  
10 4 minutes; defendant's runtime is 4 seconds.

02:47PM

11 THE COURT: All right. Proceed with this  
12 witness by deposition.

13 MATTHEW FOSTER (via deposition),  
14 having been first duly sworn, testified via deposition  
15 as follows:

02:48PM

16 Q. Where did you attend school and for what major?

17 A. Texas A&M University. And my major, I have a  
18 bachelor of science in electrical engineering.

19 Q. What year did you graduate?

02:48PM

20 A. 2011.

21 Q. Is that your most advanced degree?

22 A. Yes.

23 Q. What's your current position at Ultravision?

24 A. Currently I am the VP of engineering.

02:48PM

25 Q. What are your responsibilities as VP of engineering?

1 A. The biggest part of my responsibilities is leading  
2 the company and the future of its products in the  
3 market, making sure we stay ahead of our competition as  
4 well as, you know, if we have an existing product,  
5 making advancements to that product to make it more  
6 manufacturable, which ultimately makes it easier for our  
7 customers to purchase.

02:48PM

8 Q. When did you join Ultravision?

9 A. It was October of 2014.

02:49PM

10 Q. And where is Ultravision located?

11 A. Dallas, Texas.

12 Q. You described the Master series as also somewhat of  
13 a successor of the UltraPanel?

14 A. I believe I said -- we discussed that it was an  
15 improved version.

02:49PM

16 Q. How was it improved?

17 A. How was this improved from the V-series and  
18 M-series?

19 Q. From the UltraPanel.

02:49PM

20 A. From the UltraPanel. My understanding is that the  
21 UltraPanel leaked lots of water. Product was all metal.  
22 It was -- had two mounting points, one for front  
23 service, one for rear service. It also used a  
24 master/slave configuration for communication. This does  
25 none of those things. It's -- this is a plastic

02:50PM

1 product. There's one mounting point in each corner. It  
2 does not leak like a sieve. Changed the cabling system  
3 on it. Made some PCB improvements. And it's -- you  
4 know, it doesn't leak. It's sealed.

02:50PM 5 Q. Who are some of the designers of this product?

6 A. I do not know who designed this product.

7 Q. Is the Master Plus also modular?

8 A. I don't know why you said "also," but the Master  
9 Plus is a mod -- I believe is a modular product.

02:50PM 10 Q. You're right. I made the assumption that the  
11 UltraPanel product pictures we're looking at is of a  
12 modular panel. Is it a modular panel?

13 A. Personally, I do not believe it is.

14 Q. So I asked you about Mr. Hall's original idea for  
02:51PM 15 this product, and you said that it -- you believed it  
16 was a self-contained digital display product that was  
17 modular in nature. Do you have any reason to believe  
18 that the product that was the result of his idea not  
19 modular in nature?

02:51PM 20 A. Do you mean the product that was the result being --  
21 the UltraPanel being a product that was the result of  
22 his original idea?

23 Q. Yes.

24 A. I believe he was not delivered a modular product,  
02:52PM 25 yes, I absolutely believe that.

1 THE COURT: Does that complete this witness by  
2 deposition?

3 MR. FABRICANT: It does, your Honor.

4 THE COURT: All right. Do I understand the  
02:52PM 5 next deposition witness is about 30 or 35 minutes in  
6 length?

7 MR. SHEA: The next deposition witness is  
8 Matthew Foster again, this time his 2020 deposition, and  
9 it's about 14 minutes long -- or 20 minutes long.

02:52PM 10 THE COURT: All right. Let's do this  
11 deposition then.

12 MR. SHEA: Okay. Plaintiff calls by his 2020  
13 deposition Matthew Foster, Former Vice President of  
14 Engineering at Ultravision. Plaintiff's runtime is 14  
02:52PM 15 minutes and 32 seconds, defendant's runtime is 5 minutes  
16 and 32 seconds.

17 THE COURT: Proceed with this deposition,  
18 please.

19 MATTHEW FOSTER (via deposition),  
02:52PM 20 having been first duly sworn, testified via deposition  
21 as follows:

22 EXAMINATION

23 Q. At one point at Ultravision you were promoted to  
24 vice president of engineering; is that right?

02:53PM 25 A. Yes, sir.

1 Q. When was that?

2 A. I believe that was January of 2016.

3 Q. Just so -- going back to the -- your role again, did  
4 you ever go to Bill Hall with any technical questions?

02:53PM 5 A. Yes, sir.

6 Q. What did you go to Bill Hall to ask him about?

7 A. Especially when I was early on with Ultravision,  
8 this was a new product for me. I came from oil and gas,  
9 and Bill has been in this industry for quite some time  
02:53PM 10 and so he knows how these products work and he knows  
11 what customers like and don't like. And so, you know,  
12 for the first year, year and a half, especially, I had,  
13 probably, daily conversations with him to understand our  
14 products and understand what does and does not work.

02:54PM 15 Q. What kinds of products does Ultravision sell?

16 A. We have two product lines. We have a LED lighting  
17 line and then we have digital displays.

18 Q. And are you familiar with the V-series product?

19 A. Yes, sir.

02:54PM 20 Q. And how are you familiar with the V-series product?

21 A. That product was being installed in the field when I  
22 started.

23 Q. Were you involved in installing the product in the  
24 field at any point?

02:54PM 25 A. No. I was there as displays had already gone up to



1 help troubleshoot issues we were having.

2 Q. So you didn't actually set up any of the displays  
3 from scratch?

4 A. Not in the field, no, sir.

02:54PM

5 Q. Is there any circumstance under which you would say  
6 the V-series products are waterproof?

7 A. No, sir.

8 Q. How was the product cooled?

9 A. In the V-series, there were fans.

02:55PM

10 Q. Was Ultravision satisfied with the V-series product?

11 A. No, sir.

12 Q. Were you -- did you personally observe any of the  
13 participation that Shenzhen Only had in the design of  
14 the M-series product?

02:55PM

15 A. No, sir.

16 Q. Did you receive any communications from  
17 Shenzhen Only in which they contributed to the design of  
18 the M-series products?

19 A. Again, not for the initial design, but for some  
20 later -- the later changes we wanted to make.

02:55PM

21 Q. So Shenzhen Only only provided design suggestions  
22 and you received those design suggestions for the later  
23 design process?

24 A. No, sir. Other way around. I provided design  
25 suggestions and they assisted.

02:55PM

1 Q. Are you familiar with the Master Series of products  
2 at Ultravision?

3 A. Yeah. I believe there was a product called the  
4 Master at some point.

02:56PM 5 Q. Who came up with the design for the Master Plus  
6 Series products?

7 A. The Master Plus Series would have been myself and  
8 outside engineers.

02:56PM 9 Q. Was Bill Hall involved in the design of the Master  
10 Plus Series?

11 A. Yes, sir.

12 Q. What was Bill Hall's involvement in the design of  
13 the Master Plus Series?

02:56PM 14 A. Bill has a vast knowledge of the industry, again,  
15 going back to what I mentioned earlier. You know, he's  
16 been -- he was in the industry for a long time, and he  
17 knows -- he knew exactly what the customers did and did  
18 not want. So, you know, one of the big things -- one of  
19 the reasons we made the change to the cable is because  
02:56PM 20 previously the cables would meet kind of at the bottom  
21 of a U. So if you plugged two panels in together, the  
22 two cables would sag down, which means water runs down  
23 and gets to that cable joint. So, you know, one of his  
24 recommendations was, you know, does that need to move or  
02:57PM 25 do we need to do the cable in an entirely different way.

1 So that's what we worked towards was finding a better  
2 way to do the cable. But, you know, we -- we used a lot  
3 of the elements from previous iterations of the panel  
4 that we knew worked to carry over into ultimately what  
5 became the Master Plus.

02:57PM

6 Q. Was the inclusion of the receiver card in an  
7 individual display an important improvement of the  
8 Master Plus Series over earlier versions of the  
9 Ultravision panels?

02:57PM

10 A. Yes, sir, I believe it was.

11 Q. Why was it important?

12 A. One, it gave us the ability to do the bidirectional  
13 communication on a panel-by-panel level as opposed to,  
14 theoretically, you could have done it on the V-series  
15 and the M-series; however, it would have been over a  
16 large section of the sign. It would have been -- in the  
17 instance of our signs in the U.K., there were four  
18 receiver cards per display, so if you lost one receiver  
19 card, you lost a fourth of the sign.

02:57PM

02:58PM

20 In our industry, a sign failing is -- is lost  
21 profits to our customers, which is never a good thing.  
22 So taking that receiver card internal to the panels  
23 itself moved your failure point from a fourth of the  
24 sign to an individual panel because it allows  
25 bidirectional communication.

02:58PM

1           It also allowed us to monitor the panels on a  
2 panel-by-panel basis. We knew the internal temperatures  
3 of each panel. We knew that each panel was receiving a  
4 signal and we -- you know, we knew the voltage coming  
02:58PM 5 from the power supply, so we knew if the panel itself  
6 was receiving correct voltage.

7           It also allowed our displays to get thinner and  
8 lighter because you only had to have metal enclosures on  
9 the back side. It housed the -- you know, previously  
02:58PM 10 that receiver box was a separate metal box. It had, you  
11 know, 10 -- maybe 10, 20 cables coming off of it. So we  
12 were able to do away with that part -- those parts by  
13 taking that card internal.

14 Q. So one advantage to having the receiver inside the  
02:59PM 15 display panel is that if failure occurred to a receiver  
16 card, it was only on a single panel as opposed to a  
17 large swath of panels; is that right?

18 A. Yes, sir, if the customer wanted the bidirectional  
19 communication.

02:59PM 20 Q. And a second advantage of having the receiver card  
21 in each individual panel is it allows you to monitor  
22 each panel on an individual basis; is that right?

23 A. Yes, sir.

24 Q. And a third advantage to having the receiver card in  
03:00PM 25 the display panel is that it allows the displays to be

1 thinner and lighter; is that right?

2 A. Yes, sir.

3 Q. Who manufactured the Master Plus Series?

4 A. I believe that one was manufactured by

03:00PM

5 Mack Technologies.

6 Q. Did Mack Technologies provide any input into the  
7 design of the Master Plus Series?

8 A. No, sir.

9 Q. How many billboards were manufactured using the

03:00PM

10 Master Plus Series displays?

11 A. I believe Clear Channel might have purchased around  
12 60 of them and I think Primesight purchased 10. Again,  
13 I don't remember if there were other customers that  
14 purchased it or not.

03:00PM

15 Q. Who manufactured the prototypes of the Master Plus  
16 Series that we talked about?

17 A. We probably would have had Mack Technologies do some  
18 of them. Some of them also would have been done  
19 in-house here at our facility.

03:01PM

20 Q. Did Ultravision provide and perform any testing on  
21 the prototype Master Plus Series products?

22 A. Ultravision, we, ourselves, would not have. I would  
23 have used an outside firm to do that.

24 Q. What kind of testing would you have had an outside  
25 firm perform on the Master Plus Series?

03:01PM

1 A. Would have done some IP testing. We also would have  
2 done, probably, temperature testing, humidity testing.

3 Q. Can you explain what IP testing is?

4 A. Sure. IP stands for ingress protection. So it's  
03:01PM 5 made up of two numbers. The first number being  
6 protect -- protection from dust ingress or -- or  
7 particulate ingress, as they call it, 6 being the  
8 highest, is completely sealed from dust.

9 And the second number is protection from water  
03:02PM 10 ingress with, I think, like, 68X or 68K, or something,  
11 is the highest there, which is permanently submerged.

12 Q. And the Master Plus Series, they were IP67; is that  
13 right?

14 A. Yes, sir.

03:02PM 15 Q. And why didn't you use plastic for the back cover?

16 A. Although plastic does transmit temperature, does  
17 transmit heat, it -- it's not quite as good as metal is.  
18 The other side of that is, metal is a lot heavier than  
19 plastic. But we thought it would -- it made sense that  
03:02PM 20 one of the largest generators of heat, being the power  
21 supply, was connected to metal to move that heat out.

22 Q. And how are you familiar with the Brilliant Series?

23 A. To me, the Brilliant Series is extremely similar to  
24 the Master Plus from an engineering standpoint.

03:03PM 25 There's -- you know, I don't know that everything is

1 exactly the same. It depends on where purchasing was  
2 buying parts from. But outside of that, electrically,  
3 construction-wise, they are the same.

03:03PM

4 Q. Do you know why the Master Plus Series was changed  
5 to the Brilliant Series?

6 A. I believe the change was made when we started  
7 building the panels in-house. So when we -- when we  
8 moved away from Mack Technologies being our contract  
9 manufacturer and started manufacturing ourselves.

03:03PM

10 Q. Who did Ultravision sell the Brilliant Series  
11 products to?

12 A. I believe there is one Brilliant Series that's  
13 installed in Allen, Texas, went to a hotel. Some may  
14 have been sold to Clear Channel U.K. as well. And then  
15 we also sold some displays to Clear Channel U.S.

03:04PM

16 Q. Do you know who the display in Allen, Texas, was  
17 sold to?

18 A. I believe -- I'm sorry, I don't recall the name of  
19 the hotel.

03:04PM

20 Q. And the Clear Channel U.S. sale, do you know where  
21 that was installed?

22 A. We installed one of those. It was installed in  
23 El Paso, Texas.

24 Q. How many were installed in Allen, Texas?

03:04PM

25 A. Just one in Allen.

1 Q. So in the United States, was the Brilliant Series  
2 installed in only two locations?

3 A. Yes. Final installation was only in two locations.

03:05PM

4 Q. Is there any other kind of installation that would  
5 have occurred?

6 A. No other installations. Clear Channel purchased  
7 more than 12 displays but we only installed one of them.

8 Q. Why did you only install one of the 12 purchased  
9 displays or the more than 12 purchased displays?

03:05PM

10 A. We had just installed that display when, in  
11 September of 2019 -- September of 2019, we were -- we  
12 ceased operations.

13 Q. What do you mean, you "ceased operations"?

03:05PM

14 A. The board of directors at that time decided that  
15 with the pricing being driven down as low as it had in,  
16 especially, the U.S., but we were also starting to see  
17 it in the U.K., that we couldn't manufacture the product  
18 for a price that the customers could buy and we could  
19 make money on, and so they let us all go in September of  
20 2019.

03:06PM

21 Q. And if the products were manufactured internally at  
22 Ultravision, who would do the manufacturing?

23 A. We would -- we still have, currently, four  
24 production lines in the back, so we can staff those up,  
25 and we have enough space in our own warehouse to put

03:06PM



1 maybe 10 to 12 to 15 additional of those production  
2 lines in place, and my two engineers that used to manage  
3 my production lines, I know that they are -- they would  
4 be available and be able to come back and help us  
03:06PM 5 manufacture as well.

6 Q. How many employees would you have to hire in order  
7 to manufacture display panels?

8 A. I mean, theoretically I can manufacture some with  
9 two people, but each production line is staffed with  
03:06PM 10 ten -- ten individuals, plus you have a parts runner,  
11 and you have a couple of line managers. But we can also  
12 then -- I mean, beyond that, we can extend the contract  
13 to manufacturers. We have relationships with some of  
14 the largest contract manufacturers in the world that  
03:07PM 15 have done work with us in the past, so I -- I know  
16 that -- and two of those are here locally and I know I  
17 could get those to ramp back up and build for us as  
18 well.

19 Q. What was the last sale of a display product in the  
03:07PM 20 U.S. by Ultravision that you're aware of?

21 A. That would have been Clear Channel U.S.

22 Q. When was that sale?

23 A. I negotiated that contract for, like, a year or so,  
24 maybe. It may have finished in mid-2019, early 2019.

03:07PM 25 Q. When you say it "may have finished" in mid -- early

1 or mid 2019, you mean the negotiations?

2 A. Final, final sign-off on the purchase agreement.

3 Q. And you said one of the -- one side was installed?

4 A. Yes, sir.

03:08PM

5 Q. Here it says that with the -- excuse me -- "With the

6 design of the Master Series, Mr. Hall was able to

7 eliminate the need for any fans or vents by using a

8 plastic housing with an aluminum back." Do you know how

9 Mr. Hall was able to eliminate the need for any fans or

03:08PM

10 vents by using a plastic housing with an aluminum back?

11 A. Yes, sir. We discussed this earlier. So the power

12 supply itself is attached to that aluminum back with a

13 thermally conductive tape so that instead of having

14 vents, that back cover is used to pull the heat off the

03:08PM

15 power supply and dissipate.

16 Q. You said earlier that you didn't think a product

17 would be able to pass IP67 if it had vents. Do you

18 remember that?

19 A. Yes, I do.

03:08PM

20 Q. Why do you say that?

21 A. Because the vents would allow large amounts of water

22 to penetrate into the device more than likely causing a

23 short.

24 Q. When you have requested to have Ultravision products

03:09PM

25 IP rated, what is the reason that you did so?

1 A. I did so because Mr. Hall likes to market our  
2 products -- our products as IP67. He likes -- likes  
3 to -- the -- again, the comfortability factor of having  
4 a product that has been tested so stringently and being  
03:09PM 5 able to pass those tests.

6 Q. If an Ultravision product had been advertised as  
7 IP67, does that mean that it underwent and passed IP67  
8 testing?

9 A. Since I have been here, if it's -- at least the  
03:09PM 10 products that I was involved with in Master Plus and the  
11 Brilliant, those were all tested. I would assume  
12 anything else that has been marketed as IP67 would have  
13 been tested as well.

14 Q. Can you think of any reason that Ultravision would  
03:10PM 15 market a product as IP67 that had not been tested and  
16 satisfied that criteria?

17 A. No. I can't think of a reason why, why it would.

18 Q. Why did you perform that water testing on the  
19 V-series panels?

03:10PM 20 A. One reason was because there was water getting into  
21 them. That's what was being -- what we determined was  
22 one of the issues in New York, so we wanted to find out  
23 where that water was getting in.

24 Q. You referred to there was water getting into the  
03:10PM 25 V-series panel. What led Ultravision to believe there

1 was water getting into those panels?

2 A. One of the issues we were seeing on the New York  
3 signs was they would show an odd color. So, you know,  
4 if it was supposed to be showing, maybe, yellow, it was  
03:10PM 5 showing some -- some mixture of different colors. Or,  
6 you know, if it was supposed to be red, maybe it was  
7 actually showing purple. And one of the causes for  
8 those issues is water shorting out pins.

9 You know, maybe you're crossing the pins that  
03:11PM 10 are controlling the red and the blue, and because you  
11 crossed those, it's actually turning both of them on, so  
12 it's giving you purple instead of red.

13 So that's -- you know, when you're an engineer,  
14 you kind of go down a checklist of the easiest things  
03:11PM 15 to -- to knock off as potential failures, so that --  
16 that was a relatively easy one to try and find out.

17 Q. So you said one of the causes for the color issue  
18 you described was water shorting out pins. Is that the  
19 only thing that could have caused that issue?

03:11PM 20 A. Not from what I found. It seemed that it was water  
21 getting into the panel that was either shorting out the  
22 pins in the cable or in the panel itself.

23 Q. And what did you find that led you to believe that  
24 it was water responsible for the color issue in the  
03:12PM 25 V-series panels?

1 A. I could replicate the issue almost exactly as it was  
2 being seen in the field just by using the hose.

3 Q. What other issues were you seeing on the sign that  
4 led you to believe they were caused by water ingress?

03:12PM

5 A. Sometimes we would lose entire rows of panels  
6 because as I explained this morning, the way those  
7 panels worked is they passed data through, so if one of  
8 those panels fails, you lose everything downstream from  
9 it. When we investigated, what we found is there was

03:12PM

10 water in the power supply enclosure as well. We had  
11 power supplies that shorted out. There was rust on some  
12 of the power supplies, so water was definitely getting  
13 into the power supply enclosure as well as cable.

03:12PM

14 Q. Is it possible that there was anything other than  
15 water responsible for the issues you've noted with  
16 respect to the color and losing entire rows of panels?

17 A. It's entirely possible, but, you know, based on --  
18 especially on the panels being out entirely and finding  
19 rust on -- on power supplies, it's a pretty good

03:13PM

20 indication that water was definitely involved.

21 THE COURT: Does that complete this witness by  
22 deposition?

23 MR. FABRICANT: Yes, your Honor.

03:13PM

24 THE COURT: All right. Before plaintiff calls  
25 their next witness, ladies and gentlemen, we're going to

1 take a short recess. If you'll simply leave your  
2 notebooks in your chairs, follow all the instructions  
3 that I've given you about your conduct, including, of  
4 course, not to discuss the case with each other, we'll  
03:13PM 5 have you back in here shortly and continue with the next  
6 plaintiff's witness.

7 The jury's excused for recess at this time.  
8 (Whereupon, the jurors exit the courtroom.)

9 THE COURT: Mr. Fabricant, you have three  
03:14PM 10 additional deposition witnesses; is that correct?

11 MR. FABRICANT: Yes, your Honor.

12 THE COURT: All right. And then you expect to  
13 follow those with Mr. Credelle?

14 MR. FABRICANT: Yes, your Honor.

03:14PM 15 THE COURT: We will definitely get to him  
16 today. We discussed earlier counsel prepositioning some  
17 demonstratives. I'll leave it to you to do that when  
18 the time is right, per our discussions.

19 MR. FABRICANT: Thank you.

03:14PM 20 THE COURT: Court stands in recess.

21 (Recess from 3:14 p.m. to 3:36 p.m.)

22 THE COURT: Be seated, please. Mr. Fabricant,  
23 is the plaintiff prepared to proceed with its remaining  
24 deposition witnesses?

03:36PM 25 MR. FABRICANT: Yes, it is, your Honor.

1 THE COURT: Let's bring in the jury, please.

2 (Whereupon, the jurors enter the courtroom.)

3 THE COURT: Please be seated, ladies and

4 gentlemen.

03:36PM

5 Plaintiff, call your next witness.

6 MR. SHEA: Plaintiff calls by his 2020  
7 deposition, Frank Ren, Chief Technology Officer At  
8 Absen. Plaintiff's runtime is 30 minutes and 39  
9 seconds; Defendant's runtime is 5 minutes.

03:37PM

10 THE COURT: Please proceed with this witness by  
11 deposition.

12 FRANK REN (via deposition),  
13 having been first duly sworn, testified via deposition  
14 as follows:

03:37PM

15 EXAMINATION

16 Q. Mr. Ren, what is your title at Absen?

17 A. Title? My title is CTO of the company.

18 Q. And what does CTO stand for?

19 A. Chief technology officer.

03:37PM

20 Q. And how long have you had that role?

21 A. Since 2013.

22 Q. What is the "Absen Certified Engineers" program?

23 A. Absen certified engineer program is -- is a  
24 volunteer training program for this industry. So -- so  
25 when we start this Absen Inc. company, we found --

03:37PM

1 found -- found out that the engineers' quality and  
2 quantity limited of this industry group; so we want to  
3 help this industry grow and have our company grow. So  
4 then we start this volunteer Absen certified training  
03:38PM 5 program. So it focuses on to improve the engineers'  
6 technical skill.

7 For example, in the red field, if the -- if the  
8 engineers cannot power on the screens or cannot operate  
9 the screen properly, they will -- they may fail, so we  
03:38PM 10 want to avoid this as -- as -- as much as possible.

11 And, also, there is a lot of freelancers. They  
12 work for everybody, but they don't have the good  
13 technical skill. We want to help them. We train them  
14 as well. We did try.

03:39PM 15 Q. So Absen started a program to train people on how to  
16 install and use the products; is that fair?

17 A. We train them how to do troubleshooting, operating  
18 software, even -- even, yes, deal with some creative  
19 stuff.

03:39PM 20 Q. You train Absen certified engineers on how to  
21 install the screens in standard configurations?

22 A. How to install the screens? I would say yes.

23 Q. And do you provide them with any documents showing  
24 how to install the screens?

03:39PM 25 A. We have the training material.



1 Q. For the rental products, does Absen provide  
2 installation instructions on how to install and remove  
3 those products?

4 A. Can you clarify your question?

03:40PM

5 Q. Are there installation manuals for the rental  
6 products?

7 A. Yes.

8 Q. Do you have access to those documents?

9 A. Yes.

03:40PM

10 Q. Are those stored at Absen Inc.?

11 A. Yes. The manual, right?

12 Q. Yeah, the installation manual.

13 A. Yes, we have.

14 Q. And are those provided to customers when they  
15 purchase the product?

03:40PM

16 A. Yes.

17 Q. What about for the rental product? I'm sorry. What  
18 about for the fixed products?

19 A. Yes.

03:40PM

20 Q. Are there installation manuals?

21 A. Yes.

22 Q. At Absen Inc.?

23 A. Yes.

24 Q. And are they provided to customers?

03:40PM

25 A. Yes.

1 Q. What is the Xv product?

2 A. Xv, Xv is the rental product.

3 Q. For the two outdoor versions, are there any  
4 differences between the two aside from the pitch?

03:41PM 5 A. Yes, for the -- for the outdoor, for the outdoor,  
6 except for the pitch, the rest is -- there is no big  
7 difference.

8 Q. It says "independent waterproof module"; do you see  
9 that?

03:41PM 10 A. I saw that.

11 Q. What is the "module" being referred to here?

12 A. "Module" -- "module" here means the -- like the  
13 smallest section to show the image if we -- if we put  
14 that -- if we install that properly on the -- on the  
03:42PM 15 cabinet.

16 Q. Sorry. Go ahead. I didn't mean to cut you off.  
17 Was that the end of your answer, Mr. Ren?

18 A. I mean, "module" is the smallest section to show the  
19 image if we install that section on the cabinet  
03:42PM 20 properly.

21 Q. I want to make sure we all are on the same page with  
22 respect to the terms that we use to refer -- refer to  
23 the different parts of this thing. On Page 4, do you  
24 see two images of the product just above where we were  
03:42PM 25 just looking?

1 A. Yes.

2 Q. On that image, there are four modules shown; is that  
3 your understanding?

4 A. Yes.

03:43PM

5 Q. So the module is the part with the handle on it that  
6 contains the LEDs and the board?

7 A. Yes.

8 Q. And the entire structure that we are seeing here,  
9 you referred to as a cabinet?

03:43PM

10 A. Yes.

11 Q. So when the document says "independent waterproof  
12 module, ingress protection IP65/IP65," it's your  
13 understanding that that's referring to the module and  
14 not the entire cabinet?

03:43PM

15 A. This -- this refer to the module according to the --  
16 to the words.

17 Q. In this product the module does not contain the  
18 power supply, correct?

19 A. No, module is module. It's separate.

03:43PM

20 Q. So there's a frame surrounding the edge of the  
21 product; is that fair?

22 A. We didn't call -- we didn't call -- we didn't call  
23 "frame." They call it cabinet.

03:44PM

24 Q. Do you see on this photograph -- I'm sorry -- on  
25 this image, a box that says "Absen" on it?

1 A. Yes.

2 Q. Is there a power supply in that box?

3 A. Inside this, we call this control -- control unit,  
4 so this control -- this control unit protect power  
03:44PM 5 supply and control card inside.

6 Q. Is that control unit made out of die-cast magnesium  
7 in the Xv product?

8 A. This part, it's aluminum.

9 Q. So Absen doesn't consider that part of the cabinet,  
03:45PM 10 correct?

11 A. For this product, this part, it's -- it's a separate  
12 parts.

13 Q. And this product is rated IP65 on the front and IP54  
14 on the back, I believe you said?

03:45PM 15 A. Yes.

16 Q. What is this document?

17 A. It's the X -- X5v outdoor report.

18 Q. And to your knowledge, is one of these reports  
19 created for every product that Absen designs?

03:45PM 20 A. Yes.

21 Q. Referring back to this document, did this panel pass  
22 the waterproof testing?

23 A. Just a moment, just a moment. Let me see the -- so  
24 for this -- for this -- this one, let me see the -- so  
03:46PM 25 for this test, means we -- this product in the -- in a

1 factory lab passed the -- the water -- the -- the IP  
2 front 65 and back 54, water-resistant test.

3 Q. Does Absen always perform an IP65 test on the front  
4 and an IP54 test on the back of each outdoor panel?

03:46PM

5 A. For the current outdoor screens, we design, we  
6 design the product from IP65 and the back IP54. We  
7 will -- we will test this way too.

8 Q. So the answer to my question was yes?

9 A. Yes. We test the front IP65, back IP54.

03:47PM

10 Q. I'm not sure that answered my question, so I'll try  
11 to clarify. You are not aware of Absen U.S. or Absen in  
12 China ever performing an IP65 test on the back of an  
13 outdoor product except for the A7; is that correct?

03:47PM

14 A. So I said we -- the product design front IP65 and  
15 back IP54, we make sure passed this design number in  
16 the -- in the -- in the U -- in the -- in the -- in the  
17 U.S. I'm not aware if we tested this on the commercial  
18 side.

03:48PM

19 Q. Are you aware of Absen performing the IP65 test on  
20 the rear of a current panel ever?

21 A. So for this they may test -- they may test -- they  
22 may test -- so because the product we design IP54, they  
23 may test -- they may test these numbers; but the product  
24 is designed not that way.

03:48PM

25 Q. So you can't tell me whether Absen has ever

1 performed an IP65 test on the rear of a panel except for  
2 the A7; is that your testimony?

3 A. Can you clarify your question?

03:48PM

4 Q. You cannot tell me whether Absen has ever performed  
5 an IP65 test on the rear of an outdoor panel, correct?

6 A. Yes, so for this -- for this, I -- I think we may  
7 test the -- so according to the engineers'

03:49PM

8 understanding, they may test according to their  
9 experience. But we don't think -- but we don't think  
10 they test in the -- in the IP65 the standard  
11 requirement.

12 Q. Are you aware of any third party such as Intertek  
13 performing any IP65 testing on the rear of any Absen  
14 panels?

03:49PM

15 A. Third party, I'm not aware.

16 Q. Mr. Ren, what product is being tested in this  
17 report?

18 A. On this report shows the A1688 and 99.

03:50PM

19 Q. To your knowledge, has this product ever been sold  
20 in the United States?

21 A. We have never sold this product in the U.S.

22 Q. On Page 3 --

23 A. 3?

24 Q. -- the top line says "IPX5." Do you see that?

03:50PM

25 A. Yes, I saw that.

1 Q. Does that mean that the water rating number of 5 is  
2 being tested here?

3 A. On this report it shows, yes.

4 Q. What is Emtek?

03:50PM 5 A. Emtek is a test lab.

6 Q. It's located in China?

7 A. Yes.

8 Q. Is -- does Absen contract with Emtek to perform  
9 water testing on its products?

03:51PM 10 A. Yes.

11 Q. Is this testing performed during the product  
12 development or after the product is developed?

13 A. For this product, because we didn't -- we didn't  
14 sell this product in the U.S. market. I don't know very  
03:51PM 15 detail for this report.

16 Q. And in this document, is the product shown passing  
17 the test or failing the test?

18 A. Here shows pass. Here shows pass the IP65.

19 Q. What products does this document relate to?

03:51PM 20 A. This product is XD, XD series.

21 Q. XD what?

22 A. XD series including XD6, XD10.

23 Q. And what level of water testing is being performed  
24 here in this document?

03:52PM 25 A. X5.

1 Q. In this document, is the XD product shown to pass or  
2 fail the test?

3 A. So, actually, here, there is the -- there is a  
4 concluding -- concluding box, which on the first page  
03:52PM 5 shows this is not -- this is not standard XD6, XD10  
6 panels. So they put -- before a test, they put the  
7 glue -- put the glue, and then did the test. So for  
8 the -- for the mass production, it's not a same as this  
9 one.

03:53PM 10 So this IP65, so after put a glue on the -- on  
11 the power control unit, and it's a pass, a 5. But this  
12 is not standard product.

13 Q. So the product shown being tested here in this  
14 configuration passed the IP65 test, correct?

03:53PM 15 A. After they put the glue on the control box, they  
16 here on this report shows pass the X5, but it's not  
17 standard product.

18 Q. And this shows the control box with the door off; is  
19 that fair?

03:54PM 20 A. Yes, actual unit, yes, they take out the -- the --  
21 the back door.

22 Q. Can you see the glue in this photograph that's being  
23 referred to on the first page of the document?

24 A. I cannot -- I cannot see clearly because of the  
03:54PM 25 glue. Normally, glue is transparent. I can't see on --



1 on the sides, on the ventilation area.

2 Q. So in these photographs, you can't notice any glue;  
3 is that fair?

03:54PM

4 A. Yes, we cannot see this because it's -- the glue is  
5 normally transparent.

6 Q. Were you aware of an IP65 test being performed on  
7 this product in any other configuration?

8 A. What do you mean "other configuration"?

03:55PM

9 Q. Well, you testified that the product being tested  
10 here was in a nonstandard configuration because of the  
11 application of some glue. Do you remember that?

12 A. Yes.

13 Q. Are you aware of an IP65 test being performed on  
14 this product without the glue?

03:55PM

15 A. I didn't -- I didn't see. I didn't see that in the  
16 report.

17 Q. So you don't know if this product was tested IP65  
18 without the glue?

03:55PM

19 A. I don't know. I didn't see that. I did not see  
20 this.

21 Q. Mr. Ren, is this a series of photographs that  
22 depicts the Xv product in its outdoor configuration?

23 A. Let me -- let me take a look.

24 Q. Please take your time.

03:55PM

25 A. I am ready.

1 Q. Does this appear to be an Xv product, sir?

2 A. It's Xv.

3 Q. And do you see any differences between the product  
4 in these photographs and the Xv product that's currently  
5 being sold?

03:56PM

6 A. You mean this -- this picture and the -- and the --  
7 and the current product, right?

8 Q. Yes, sir.

9 A. No difference.

03:56PM

10 Q. But there have been no changes, for example, to the  
11 methods of waterproofing?

12 A. No.

13 Q. No changes --

14 A. So this product, we didn't say "waterproof." We say  
15 "water-resistant." We didn't say -- we didn't -- we  
16 didn't offer it. We didn't change anything regarding  
17 the water-resistant.

03:56PM

18 Q. And there have been no changes to the electrical  
19 system or the power outing or anything like that,  
20 correct?

03:56PM

21 A. For the power system, yeah, I didn't aware.

22 Q. Does Absen ever install its products for the  
23 customers or end users?

24 A. What do you mean "install"?

03:57PM

25 Q. Does Absen ever build the signs, or is it always a

1 contractor or the customer?

2 A. The client, they will -- they will install by  
3 themselves, or they hire their partners to do the  
4 install. We didn't do the install for the client.

03:57PM

5 Q. Does Absen ever assist in those installations?

6 A. We -- we have the on-site support to a client. For  
7 example, we -- we -- during the installation process, we  
8 show them how to protect the LEDs, how -- how to -- how  
9 to ensure that the final -- what's the -- what's the

03:58PM

10 meet -- what's the -- what's the -- what's the best,  
11 flattest and the gap for the screen. And after client  
12 install the screen completely, and when they power on  
13 the screen, we will show them through the  
14 troubleshooting and train them use the software.

03:58PM

15 Q. So Absen is involved in the installation process,  
16 but nobody at Absen actually puts together the sign; is  
17 that fair?

18 A. We help them. We help them. We help them do the --  
19 like, do the training -- do the training like a

03:59PM

20 consultant kind of things. We didn't install for them.

21 Q. And that occurs with the assistance of Absen which  
22 oversees the installations in most cases?

23 A. Most of the cases the client, they -- they -- they  
24 can handle. We don't -- we don't need -- we don't need

03:59PM

25 help for the most projects. They have their own ability

1 to do this because we trained a lot of them as  
2 engineers.

3 Q. What testing is being performed as documented in  
4 Exhibit 11?

03:59PM

5 A. Yeah, this -- this is pilot production test. That  
6 means this -- yeah -- this -- this pilot production test  
7 before mass production.

04:00PM

8 Q. But for the water testing, whether it be  
9 "waterproof" or "water-resistant," this panel passed the  
10 test that it was subjected to, correct?

11 A. So -- so on the bottom here -- so here it's -- the  
12 number is confused a little bit. So I saw the number,  
13 it passed the IP65, IP54 test.

04:00PM

14 Q. Is this documenting one water test or two different  
15 waterproof -- water tests?

04:01PM

16 A. So here -- here is right not clear. Even -- even  
17 the -- even they put the front and the back opposite.  
18 So for IP65 and IP -- I -- IP65 on the front and IP54 on  
19 the back, typically, there is two -- two different --  
20 two different ways to test. And the water -- water flow  
21 rate and the spray time, that's different.

04:01PM

22 Q. Okay. So to the best of my interpretation of this  
23 document, that the panel was subjected to an IP65 test  
24 on the front and passed and an IP54 test on the back and  
25 passed, is anything about that inaccurate to you?

1 A. Yes. Here it shows the IP54 on the back, IP65 in  
2 the front. Yeah, and then it's water-resistant test.

3 Q. And it passed both of those tests?

4 A. Passed.

04:01PM

5 Q. Are you aware of any documentation -- strike that.

6 Are you aware of an IP65 test ever being  
7 performed on the back of a PL product.

8 A. I didn't -- I didn't aware.

04:02PM

9 Q. Not by Absen and not by any third parties that  
10 you're aware of?

11 A. I didn't. I didn't aware.

12 Q. When Absen's outdoor panels are installed, does  
13 Absen recommend any sort of covering over the back of  
14 the panels?

04:02PM

15 A. You mean the covering for -- to protect the water?

16 Q. Yes, sir, or anything else?

17 A. So our -- our product is -- front is 65 and back is  
18 54. So when we sell the product to a client, we -- we  
19 don't recommend -- we don't recommend they -- they cover  
04:02PM 20 the back side to protect the water.

21 Q. So the products as they are sold -- the outdoor  
22 products, as they are sold by Absen, are capable of  
23 operating on their own in an outdoor environment,  
24 correct?

04:03PM

25 A. Correct.

1 Q. You testified that Absen does not recommend the use  
2 of any waterproof coverings over the outdoor panels when  
3 they are installed, correct?

04:03PM

4 A. So we say this way. The product can handle the wet  
5 outdoor environment. So the client, they will do the  
6 installation according to their needs. For example,  
7 some project they may install, like, on a column. So --  
8 and some they may attach on a wall. So there is  
9 different -- different details for the installation.

04:03PM

10 But we don't -- we didn't say you have or you must to  
11 put that -- that protection on the back. The product  
12 itself can -- can work in an outdoor environment.

04:04PM

13 Q. Are you aware of any installer or any client adding  
14 additional weather protection to the back of the Absen  
15 panels?

04:04PM

16 A. In the U.S., I didn't -- I didn't aware any -- any  
17 client do this. But in some other places, they do.  
18 They put the cover on the back. It's not to help for  
19 the water-resistant. It does not help the water. They  
20 just want to put the AC inside. Yeah, that's mainly in  
21 the Asian market. But in the U.S., I -- I saw it's very  
22 simple. Just put the screen outside, and they run it.

23 Q. Does Absen buy any control systems except those from  
24 Novastar?

04:05PM

25 A. Do you mean the control systems from other vendors?

1 Q. Yes, sir.

2 A. Well, for the control system, I am not aware because  
3 in the U.S. -- in the U.S. market, we -- we -- we  
4 only -- we only use the Novastar.

04:05PM

5 Q. And is the hardware sometimes called a "receiving  
6 card"?

7 A. Yes, receiving card.

8 Q. Do you know if the A7s receiving card is used in any  
9 Absen products?

04:05PM

10 A. Yes.

11 Q. Do you know which products it's used in?

12 A. For this, there is a -- there's different card and  
13 different product. I think it's X -- X2v we use the  
14 A7s.

04:06PM

15 Q. When the card is purchased from Novastar, does Absen  
16 make any modifications to it?

17 A. So when we purchase the -- when we purchase the --  
18 according to my understanding, when we purchase the card  
19 from them, we will -- we will use for our product. So

04:06PM

20 when we -- after we purchase, we cannot -- we cannot  
21 update.

22 Q. So I'll represent to you that this is a photograph  
23 of an Absen N2 product that was shipped to our expert  
24 for the purposes of this litigation. Does that appear  
04:07PM 25 to have an A7s receiver card in it?

1 A. Yes, it appears on the picture it shows the A7s.

2 Q. But you agree with me that at least in this photo,  
3 the N series has the A7s receiver card?

4 A. Yes.

04:07PM

5 Q. And you don't know the name of the control system  
6 that Absen uses in the U.S.?

7 A. This is -- I think this is different, different than  
8 the regular control system. Regular control system we  
9 call an MCTR.

04:07PM

10 Q. The what? MCTR?

11 A. MCTR. That's control -- a control software. It  
12 control the screen and control the configuration. This  
13 is different.

14 Q. Does the MCTRL600 ring a bell?

04:08PM

15 A. 600, that's the standard card. Yes, it can work  
16 with several control box.

17 Q. Mr. Ren, is this the controller that you were just  
18 referring to that Absen uses in the United States?

19 A. Yes, we use it here.

04:08PM

20 Q. Mr. Ren, during the break, were you able to get an  
21 answer to my question?

22 A. Yes. Yes. I called my colleague, Alan. Yeah, we  
23 use the -- the software name is Nova, N-o-v-a, dash,  
24 L-T-C.

04:08PM

25 Q. Okay. And that's from Novastar, correct?



1 A. Yes.

2 Q. To your knowledge, does Absen make any modifications  
3 to that software?

4 A. No, we use the standard.

04:08PM 5 Q. So for certain products, Smart monitoring is not  
6 available, correct?

7 A. We would -- we would say it this way. So for the --  
8 for the monitor, in terms of the monitor function is  
9 a -- there is a -- there is a different definition for  
04:09PM 10 different companies.

11 For Absen we think if cannot -- if we cannot  
12 monitor the module level, we -- we will -- we will not  
13 see this product with function, every monitor functions.  
14 Only -- only monitor functions -- for us, we only refer  
04:09PM 15 to the monitor for the module level.

16 Q. So if there's monitoring at the cabinet level, such  
17 as monitoring of the power supply, Absen does not  
18 consider that Smart monitoring?

19 A. Only for how much -- only for power supply and the  
04:10PM 20 module -- that's the module level -- module level, the  
21 monitor. But for the rest, for example, the receiving  
22 card itself can feature things, but that one we -- we  
23 didn't see that, the monitor function for those things.

24 Q. The Smart monitoring software in Absen's products  
04:10PM 25 monitors the power supplies, correct?

1 A. Smart monitor -- smart monitor -- it including --  
2 including module, power supply, and the receiving  
3 card -- and the receiving card -- and the receiving card  
4 itself. But the receiving card -- receiving card,  
04:11PM 5 that's the standard -- that's the standard for every  
6 product. It's not -- it's not -- it's not for -- for --  
7 for -- for our product.

8 So for our product we say the Smart monitor  
9 function if it refer to module level monitor functions.

04:11PM 10 Q. So every product monitors the connection between the  
11 sending card and the receiver card, but for Absen to  
12 consider a product enabled with Smart monitoring, the  
13 module and power supply is also monitored; is that  
14 correct?

04:11PM 15 A. Yes.

16 Q. Yes, so you said the power supply is monitored,  
17 correct?

18 A. Mm-hmm.

19 Q. And what actually is monitored? Is it the voltage  
04:11PM 20 across the power supply?

21 A. I don't -- I don't -- I don't know very detail for  
22 this. But if power supply fail, it will -- it will  
23 monitor. And also if the module fail, it will monitor.

24 Q. Do you know if the temperature is monitored, the  
04:12PM 25 temperature inside the display?

1 A. Temperature on the module is monitored.

2 Q. Is anything else monitored besides the power supply,  
3 the module status, and the temperature that you can  
4 recall?

04:12PM

5 A. Yes, power supply, module, module failure or not,  
6 module temperature. Yes. Yes, those -- those.

7 Q. That's all that you can remember?

8 A. Mm-hmm.

04:12PM

9 Q. Okay. Being able to pass the FCC tests is  
10 important; would you agree?

11 A. Yes.

12 Q. The products cannot be sold in the United States  
13 unless they pass the FCC tests, correct?

04:13PM

14 A. I would say the product need to meet the FCC  
15 requirement.

16 THE COURT: Does that complete this witness by  
17 deposition?

18 MR. FABRICANT: Yes, your Honor, it does.

19 THE COURT: Call your next witness, Plaintiff.

04:13PM

20 MR. FABRICANT: Yes, your Honor.

21 MR. SHEA: Plaintiff calls by his 2018  
22 deposition Peiling Xie, plaintiff's runtime 16 minutes,  
23 24 seconds. Defendant's runtime, 6 minutes, 47 seconds.

04:13PM

24 THE COURT: All right. Proceed with this  
25 witness by deposition.

1                   PIELING XIE (via deposition),  
2   having been first duly sworn, testified via deposition  
3   as follows:

4                   EXAMINATION

04:13PM

5   Q.   What is your current job title?

6   A.   Principal structure engineer.

7   Q.   Do these photos appear to depict an Absen product?

8   A.   Yes.

9   Q.   Which product?

04:13PM

10   A.   XD.

11   Q.   What kind of product is the XD?

12   A.   Fixed installation product.

13   Q.   Outdoor?

14   A.   It's installed outdoors.

04:14PM

15   Q.   This appears to show a portion of the Absen XD.

16   Would you agree?

17   A.   This is XD panel.

18   Q.   So this component is called a panel?

19   A.   Yes.

04:14PM

20   Q.   And this panel contains LEDs; correct?

21   A.   It does.

22   Q.   What material is the exterior of this panel made out  
23   of?

24   A.   Several materials.

04:14PM

25   Q.   What are those materials?

1 THE INTERPRETER: The interpreter needs  
2 clarification.

3 A. The outside frame is made of PC plus fiberglass.

4 Q. When you say the outside frame, what do you mean?

04:15PM 5 A. This surrounding circle.

6 Q. And there is a gasket under this portion. Do you  
7 see that?

8 A. Yes.

9 Q. What is that gasket made out of?

04:15PM 10 A. Silicone rubber.

11 Q. And inside, you can see some integrated circuits in  
12 this photograph. Do you see those?

13 A. I see that.

14 Q. What are those integrated circuits soldered to?

04:15PM 15 A. PCB.

16 Q. Does that stand for printed circuit board?

17 A. Yes.

18 Q. Can you please turn to the last page, page ending in  
19 263. This photograph shows LEDs, would you agree?

04:15PM 20 A. I do.

21 Q. And this shows the panel mounted to a frame, would  
22 you agree?

23 A. I do.

24 Q. How is the front cover attached to the Absen XD?

04:16PM 25 A. Screws.

1 Q. And underneath the front cover, there's printed  
2 circuit board, correct?

3 A. Are you referring to this specific product?

4 Q. Yes.

04:16PM 5 A. It has rubber underneath.

6 Q. What is the purpose of that rubber?

7 THE INTERPRETER: I would like to clarify with  
8 the witness.

9 A. It's a type of AB material underneath.

04:16PM 10 Q. What is AB material?

11 A. It's silicone-based.

12 Q. Is it applied for waterproofing purposes?

13 A. For the front side, the purpose is waterproofing.

14 Q. Do you know how that material is applied during  
04:17PM 15 manufacturing?

16 A. First, using liquid. And then it's hardened.

17 Q. And underneath that material, there's a printed  
18 circuit board that the LEDs are mounted to, would you  
19 agree?

04:17PM 20 A. Yes.

21 Q. And is that the same printed circuit board that we  
22 saw earlier?

23 A. Yes.

24 Q. There are integrated circuits mounted to the printed  
04:17PM 25 circuit board in this photograph. Do you agree?

1 A. Yes.

2 Q. Are some of those integrated circuits LED drivers?

3 A. Yes.

4 Q. What material is the frame made out of? Is it  
04:18PM 5 metal?

6 A. Yes.

7 Q. When the XD is mounted for outdoor use, is the  
8 portion of the XD that we can see in this photograph  
9 exposed to the weather?

04:18PM 10 A. Yes, it is exposed to the weather. It can only  
11 waterproof with respect to rainwater.

12 Q. What about snow?

13 A. Snow too.

14 Q. Do you know what the IP rating is of the Absen XD?

04:18PM 15 A. The front, 65.

16 Q. What about the rear?

17 THE INTERPRETER: The interpreter needs  
18 clarification.

19 A. With respect to one single panel, it's not  
04:19PM 20 waterproof.

21 Q. I thought you testified that the back portion of the  
22 Absen XD can be exposed to weather. Do you remember  
23 that?

24 A. Only when it is assembled, then they can do that.

04:19PM 25 Q. When it is assembled, what is the IP rating on the

1 rear?

2 A. I need to think about it. I don't recall.

3 Q. Does this table of parameters show the IP rating of  
4 the XD?

04:19PM

5 A. Yes.

6 Q. What are those IP ratings?

7 A. Front, 65. Rear, 54.

8 Q. What is shown in this photograph?

9 A. Power box.

04:19PM

10 Q. Is the power box sealed with a gasket when it's  
11 closed?

12 A. Yes, there is a gasket.

13 Q. What is the purpose of that gasket?

04:20PM

14 A. Because this power supply box has two parts, there's  
15 a cover, so the purpose of the gasket is waterproofing.

16 Q. So that when the power box is closed, no water  
17 enters, correct?

04:20PM

18 A. When the two parts are put together, the power  
19 supply box is one individual component. But the power  
20 supply box itself is not waterproofing.

21 Q. Why isn't the power supply box waterproof?

22 A. Please take a look at Page 258.

23 Q. Okay, I'm there.

24 A. Please take a look at this opening.

04:21PM

25 Q. Are there any vents in the power supply box?



1 A. I remember, yes, for this model.

2 Q. Where are they located?

3 A. The side.

4 Q. Which side, do you know?

04:21PM

5 A. Actually, the air can pass through from several  
6 sides; from the right, from the left, and from the  
7 front.

8 Q. When you say "front," you mean the side facing the  
9 LEDs, correct?

04:22PM

10 A. Yes.

11 Q. So the vents don't allow dust and water to enter?

12 A. They can enter.

13 Q. Do they allow normal rainwater to enter?

04:22PM

14 A. It protects against rainwater. The rainwater cannot  
15 enter.

16 Q. Is there any material between the power supplies and  
17 the cover such as a thermal paste or grease?

18 A. Yes.

19 Q. For all three power supplies?

04:22PM

20 A. Yes.

21 Q. What is that material?

22 A. We call it thermal silicone.

23 Q. What is the purpose of the power supply in the XD?

24 A. Supply power.

04:23PM

25 Q. Do they receive AC power?

1 A. Yes.

2 Q. Do they output AC power?

3 A. DC.

4 Q. Each power supply converts AC power to DC power;  
04:23PM 5 correct?

6 A. Yes.

7 Q. Depending on which pixel pitch is offered, is the  
8 exterior material of each panel different?

9 A. For each panel, right.

04:23PM 10 Q. Yes.

11 A. Basically the same.

12 Q. So they are all made of PC plus fiberglass in the XD  
13 series, correct?

14 A. Yes.

04:23PM 15 Q. Would there still be drivers on the back of the PCB?

16 A. Yes.

17 Q. What product appears in these photographs?

18 A. Xv.

19 Q. And is this a rental product?

04:24PM 20 A. Yes.

21 Q. The first page of this document shows a portion of  
22 the Xv being removed from the frame, would you agree?

23 A. Looking at this picture, the top of the picture  
24 shows a -- looking at this picture, the top of the

04:24PM 25 picture shows a panel. The bottom of this picture shows

1 the frame with three other panels.

2 Q. Is the panel in the Xv also made out of PC plus  
3 fiberglass?

4 A. Yes.

04:24PM

5 Q. It is -- is it also attached to the frame with  
6 screws?

7 A. Magnets.

8 Q. Are there any pins in the panel on the Xv that  
9 assist with alignment?

04:25PM

10 A. Pins? For alignment, right?

11 Q. Yes.

12 A. Yes.

13 Q. Do you know why the decision was made to design it  
14 this way?

04:25PM

15 A. The weight.

16 Q. This is lighter, correct?

17 A. Yes.

18 Q. Inside this panel, is there a PC board?

19 A. Yes.

04:25PM

20 Q. Does it have drivers on it?

21 A. Yes.

22 Q. Are they located on the side opposite the LEDs?

23 A. Yes.

24 Q. Like the XD, is the front cover in the Xv also  
25 attached with screws?

04:25PM

1 A. Yes.

2 Q. Does the front cover also contain visors?

3 A. This almost does not have them.

4 Q. So it has it or it does not, "yes" or "no"?

04:26PM

5 A. From our point of view, if there's a protrusion, it  
6 is a visor.

7 Q. What is underneath the front cover in the Xv?

8 A. The same as XD.

9 Q. A waterproofing material?

04:26PM

10 A. Yes.

11 Q. Around the edge of the power supply box, is there a  
12 gasket?

13 A. Yes.

14 Q. Why is that gasket there?

04:26PM

15 A. The purpose of that gasket is to prevent rainwater  
16 from entering when it is used outdoors.

17 Q. Is there a thermal paste or grease between the power  
18 supply and the rear cover?

19 A. Yes.

04:27PM

20 Q. And water intrusion can cause failure as well,  
21 correct?

22 A. Yes.

23 Q. Does the power supply box in the Xv have any vents  
24 for cooling?

04:27PM

25 A. Xv? It is not sealed.

1 Q. Why is it not sealed?

2 A. Take a look at the bottom. The silicone rubber  
3 gasket is not closed.

4 Q. So aside from that small break in the rubber gasket,  
04:27PM 5 are there any openings that allow water to enter?

6 A. And also the power port and the data port. Mainly  
7 these two.

8 Q. So the cable connectors can allow water to enter  
9 when there's no cable connected; would you agree?

04:28PM 10 A. Yes.

11 Q. But when the cables are connected and the power  
12 supply box is closed, there's no water ingress during  
13 normal operation; correct?

14 A. It can only protect against rainwater. It cannot be  
04:28PM 15 submerged under water.

16 Q. So this shows an Xv product with everything  
17 connected, do you agree?

18 A. Yes.

19 Q. Could this product as it's seen here be exposed to  
04:28PM 20 the weather and still operate normally?

21 A. Exposed to the weather, yes.

22 Q. So there's no additional cover that's needed;  
23 correct?

24 A. No other covers.

04:29PM 25 Q. Do you know what the IP rating is of the Absen Xv?

1 A. If the four panels and the power supply box is all  
2 assembled, because individually none of these is  
3 waterproof, they do not protect against water or even  
4 rainwater. When it's all assembled, the front IP rating  
5 is 65 and the back IP rating is 54.

04:30PM

6 Q. Are you aware of any Absen Xv product ever failing  
7 due to water intrusion under normal operation?

8 A. No.

9 Q. So for an IP65 test, the water must be spread from  
10 all directions, correct?

04:30PM

11 A. Mm-hmm.

12 Q. Could you give me a "yes" or "no" answer?

13 A. Yes.

14 Q. And so if the IP65 test were performed on the rear  
15 which is rated IP54, there would be water intrusion,  
16 would you agree?

04:30PM

17 A. It would depend on where -- from what direction the  
18 water is sprayed.

19 Q. IP65 requires the device to operate when water is  
20 sprayed from all directions, would you agree?

04:30PM

21 A. Yes.

22 Q. Are you aware of the IP65 test ever being performed  
23 on the rear of the Absen Xv?

24 A. No. I think only IP54 testing was performed.

04:31PM

25 Q. Same with the XD?

1 A. I'm not sure about XD. I have more knowledge about  
2 Xv.

3 Q. So per square meter, is this product lighter than  
4 the A series?

04:31PM

5 A. I think it is lighter because when I joined the  
6 company, the A series was already -- well, they made the  
7 A series prior to my joining the company.

8 Q. What product appears in these photographs?

9 A. PL.

04:32PM

10 Q. What material are the panels made out of in the PL  
11 product?

12 A. Mainly the PC, as we discussed earlier, and also  
13 aluminum, et cetera.

14 Q. That's PC fiberglass?

04:32PM

15 A. Yes.

16 Q. And like the Xv and the XD, there's a waterproofing  
17 material underneath, correct?

18 A. Yes.

19 Q. And that's silicone, right?

04:32PM

20 A. Correct.

21 Q. Is it applied in the same way as a liquid?

22 A. Yes.

23 Q. And then it hardens?

24 A. Yes.

04:32PM

25 Q. And underneath, there's a PCB?

1 A. Yes.

2 Q. And the LEDs are mounted to the PCB?

3 A. Yes.

4 Q. And on the back of the PCB, are there drivers?

04:32PM

5 A. Yes.

6 Q. Does it have a gasket?

7 A. Yes.

8 Q. For water protection, correct?

9 A. Protect? Protects against rainwater from entering.

04:33PM

10 Q. And there's a power supply box attached to the back  
11 of the frame; correct?

12 A. Yes.

13 Q. Does the power supply box in the PL have a gasket?

14 A. No. It's on the frame.

04:33PM

15 Q. There's no slit in this gasket, would you agree?

16 A. It does. It's also located at the bottom. If you  
17 look closely, you can find it.

18 Q. Can you please get your pen and indicate that slit  
19 with an arrow?

04:33PM

20 A. Let me find a clearer picture.

21 Q. Right in the middle of the bottom?

22 A. Yes.

23 Q. Is there a thermal grease between this power supply  
24 and the back of the power supply box?

04:34PM

25 A. Yes.



1 Q. Do you know the IP rating for the PL product?

2 A. I remember it is the same as Xv.

3 Q. IP65 front, IP54 rear?

4 A. Yes.

04:34PM

5 Q. Are you aware of an IP65 test ever being performed  
6 on the PL product?

7 A. Our company would always perform such, but I -- I  
8 have not observed that.

04:34PM

9 Q. The power supplies in all versions of the PL accept  
10 AC power, would you agree?

11 A. Yes.

12 Q. And they output DD power at a lower voltage,  
13 correct?

14 A. Correct.

04:34PM

15 Q. And under those front covers on each model of the PL  
16 is a silicone material for waterproofing, correct?

17 A. With respect to the outdoor models, that's true.

18 Q. And underneath that is a printed circuit board?

19 A. Yes.

04:34PM

20 Q. And regardless of which model of the PL, there are  
21 always drivers on the back of the printed circuit board,  
22 correct?

23 A. Yes.

04:35PM

24 Q. And inside the panel on both the X3v and X5v is a  
25 printed circuit board, correct?

1 A. Yes.

2 Q. And the printed circuit board has drivers on the  
3 back?

4 A. Yes.

04:35PM 5 Q. On both?

6 A. Yes.

7 Q. What is shown on this page?

8 A. Panel.

9 Q. A panel for the A7?

04:35PM 10 A. Yes.

11 Q. Do you know if there was a cover that went over this  
12 panel for the A7?

13 A. Yes.

04:35PM 14 Q. The panel like this couldn't be exposed to the  
15 weather, correct?

16 A. Correct.

17 Q. The panel was mounted in a larger cabinet?

18 A. The panel was mounted on a four-in-one frame.

04:35PM 19 Q. Do you know what material that frame was made out  
20 of?

21 A. Aluminum.

22 Q. Are there any openings in that frame, aside from  
23 cable openings?

04:36PM 24 THE INTERPRETER: The interpreter needs  
25 clarification.

1 A. This is a pretty old product. I think the structure  
2 is different. There are openings for indication lights.  
3 And also on the right-hand side and the left-hand side,  
4 there are connector openings for the electrical wire,  
04:37PM 5 electrical cable, and the data cable.

6 Q. To your knowledge, does the frame in this product  
7 provide weather protection?

8 A. Yes, it does.

9 Q. Does Absen consider its current products superior to  
04:37PM 10 the A7?

11 A. I think, with respect to our current products,  
12 they're easier to be maintained. And I think they are a  
13 lot lighter than the previous products.

14 THE COURT: Does that complete this witness by  
04:37PM 15 deposition?

16 MR. FABRICANT: Yes, does it, your Honor.

17 THE COURT: Call your next witness.

18 MR. SHEA: Plaintiff calls by its 2018  
19 deposition Bai Shao, Engineering Manager at Absen.

04:38PM 20 Plaintiff runtime, 4 minutes; defendant runtime, 23  
21 seconds.

22 THE COURT: Please proceed with this witness by  
23 deposition.

24 BAI SHAO (via deposition),  
04:38PM 25 having been first duly sworn, testified via deposition

1 as follows:

2 EXAMINATION

3 Q. What's your job title?

4 A. Manager of engineering solutions.

04:38PM 5 Q. How long have you held that title?

6 A. Five to six months.

7 Q. What was your job title prior to that?

8 A. Lead engineer.

9 Q. What are your current job responsibilities?

04:38PM 10 A. Including product design and the customer support.

11 Q. Who do you report to?

12 A. Allen Lu. He used to be CEO, and currently he's the  
13 CERO.

14 THE WITNESS: No. CRO.

04:39PM 15 A. CRO.

16 Q. What outdoor products, outdoor LED products does  
17 Absen sell in the U.S.?

18 A. You mean currently or previously?

19 Q. Let's start with currently.

04:39PM 20 A. PL for outdoors, Xv, XD, AT. That's just about  
21 these four different series.

22 Q. What's the full legal name of the entity you work --  
23 where you work?

24 A. My employer's name is Absen, Inc.

04:39PM 25 Q. Is it located in Orlando?

1 A. Yes, it is in Orlando.

2 Q. And how many employees?

3 A. 50 to 60.

4 Q. When is the first time you became aware of

04:40PM

5 Ultravision?

6 A. In '17.

7 Q. Can you be more specific?

8 A. In the later part of the year.

9 Q. So when a customer purchases a product, it receives

04:40PM

10 manuals electronically?

11 A. If they ask for it, we will send that.

12 Q. What kind of manuals?

13 A. The manual is in English on how to use a product.

14 Q. And how to install a product?

04:40PM

15 A. Should be in that too.

16 Q. And when Absen sells to an integrator like

17 NanoLumens, NanoLumens handles the installation or does

18 another entity handle installation?

19 A. Depending on the customer, some customers would

04:41PM

20 do -- look for companies to do the installation for

21 them. Some would do their own installation. Some would

22 contact our sales for support.

23 Q. It says on Exhibit 7, if you take a look -- it says

24 on the bottom of the chart, "Total: 2 years' warranty."

04:41PM

25 Are you familiar with the warranty that Absen provides

1 to NanoLumens?

2 A. All our products sold in the U.S. will have two-year  
3 limited warranty.

4 Q. What does --

04:41PM

5 A. Limited warranty.

6 Q. What does that entail?

7 A. In case of any product quality issues, Absen would  
8 be responsible for repairing.

9 Q. What is the markup for the PL product?

04:42PM

10 A. PL will have several product under PL, and it's  
11 roughly around 40, 50 percent also.

12 Q. After discount?

13 A. Yes, after discount.

14 Q. So 40 or 50 percent markup after discount. What  
15 about prior to discount?

04:42PM

16 A. 60, 70 percent.

17 THE COURT: Does that complete this witness by  
18 deposition?

19 MR. FABRICANT: Yes, it does, your Honor.

04:42PM

20 THE COURT: All right. Plaintiff, call your  
21 next witness.

22 MR. LAMBRIANAKOS: Your Honor, plaintiff calls  
23 Mr. Thomas Credelle.

24 THE COURT: All right. Mr. Credelle, if you'll  
25 come forward to be sworn, please.

04:43PM

1 (Whereupon, the witness was duly sworn.)

2 THE COURT: Please come around, sir. Have a  
3 seat at the witness stand.

04:43PM

4 Are there witness binders to distribute with  
5 this witness, Mr. Lambrianakos?

6 MR. LAMBRIANAKOS: Yes, your Honor.

7 THE COURT: Let's get them distributed, please.

8 All right. Counsel, you may proceed with  
9 direct examination of the witness.

04:44PM

10 MR. LAMBRIANAKOS: Thank you, your Honor.

11 THOMAS CREDELLE,  
12 having been first duly sworn, testified as follows:

13 DIRECT EXAMINATION

14 BY MR. LAMBRIANAKOS:

04:44PM

15 Q. Good afternoon, Mr. Credelle.

16 A. Good afternoon.

17 Q. Would you please introduce yourself to the jury.

18 A. Yes. My name is Tom Credelle.

04:45PM

19 Q. Can you tell us a little bit more about yourself,  
20 sir?

21 A. Yes. I live in Powell Butte, Oregon. It's a small  
22 town, might be even smaller than Marshall, and I have a  
23 lovely wife of 40 years. We celebrated our 40th this  
24 past year, waiting to take our trip after COVID.

04:45PM

25 I have two sons. I have two granddaughters.

1 One is only eight weeks old.

2 THE COURT: Feel free to pour yourself some  
3 water if you'd like to, Mr. Credelle.

4 THE WITNESS: Thank you.

04:45PM

5 THE COURT: Go ahead, counsel.

6 Q. Mr. Credelle, how are you connected with this case?

7 A. I was retained by Ultravision to provide expert  
8 opinions on the infringement and validity of several  
9 patents.

04:45PM

10 Q. Are you being compensated for your work in this  
11 case?

12 A. Yes. I'm being compensated at my standard rate of  
13 \$400 per hour plus expenses. The outcome of this trial  
14 doesn't affect my compensation.

04:46PM

15 Q. What are you going to testify about today?

16 A. Today I'm going to testify about infringement of  
17 several Absen products of three patents that I'll  
18 discuss.

04:46PM

19 Q. Did you prepare a slide presentation to assist you  
20 in presenting your testimony here today?

21 A. Yes, I did.

22 Q. Could you please tell the jury what your  
23 qualifications are?

24 A. Yes. Actually, this slide is almost out of date.

04:46PM

25 In one year I'll have 50 years' experience, I hate to



1 say. But I've been in the display industry in research  
2 and development and engineering for all of my career.  
3 I've seen it progress from small wristwatch LCD displays  
4 all the way up to the giant TVs we see and even the  
04:47PM 5 billboards screens we see on the highway.

6 The focus has been on flat screens, on the  
7 electronics and the optics that go with those flat  
8 screens, the materials, the testing. I've done a lot of  
9 it testing.

04:47PM 10 Currently I own my own business. It's a patent  
11 and business consulting firm, so I advise companies on  
12 maybe new technologies they want to adopt in their  
13 products and also do this kind of patent litigation  
14 support.

04:47PM 15 Q. Have you received any patents yourself?

16 A. Yes. Over my career, I have received over 80 U.S.  
17 patents, mostly in flat panel displays but also in some  
18 related electronics and materials.

19 Q. What's your educational background?

04:47PM 20 A. I received my bachelor of science degree in  
21 engineering from Drexel University from Philadelphia in  
22 1969 and my master's degree also in electrical  
23 engineering from MIT in 1970.

24 THE COURT: Mr. Credelle, pull the microphone a  
04:48PM 25 little closer please.

1 THE WITNESS: Okay.

2 THE COURT: Thank you. Please continue,  
3 counsel.

04:48PM

4 Q. What type of technology did you concentrate on  
5 during your university studies?

6 A. The broad category is electrical engineering, but my  
7 emphasis was on solid-state physics and materials and  
8 optics. So kind of a subset of electronics, but very  
9 relevant to flat-panel displays.

04:48PM

10 Q. After you graduated, what did you do?

11 A. The first company I was hired by was a company  
12 called RCA, and I worked in their central research lab  
13 in Princeton, New Jersey. Some of you may know RCA as  
14 the inventor of color television. Maybe not on this

04:48PM

15 jury. You're all fairly young, but maybe your  
16 grandparents and parents know that RCA name.

17 Q. What does RCA stand for?

18 A. Actually it stands for Radio Corporation of America,  
19 later changed to RCA as they expanded their products.

04:49PM

20 But, as I say, best known for color television.

21 Q. What kind of work did you do at RCA's lab?

22 A. RCA has a research lab, and so I was hired to  
23 research new products for RCA, whatever they might be.

24 They were in a lot of different areas. But after about

04:49PM

25 a year at RCA doing various research projects, I was

1 asked to join a brand-new project to develop  
2 hang-on-the-wall television is what we called it, a flat  
3 panel screen instead of the big, bulky boxes that we  
4 had. That was a dream of the chairman of RCA, and I  
04:49PM 5 joined that group and stuck with it my whole career.

6 Q. What did you do next after RCA labs?

7 A. At RCA I eventually became the management group  
8 doing liquid-crystal display research. Some may be --  
9 this is before we had flat screens in any products. RCA  
04:49PM 10 was acquired by General Electric in the mid-'80s, and  
11 they were working on liquid-crystal displays also but  
12 for avionic applications like airplane cockpits, and I  
13 was given the opportunity to run that group and help  
14 commercialize that technology for cockpits.

04:50PM 15 To do that, we had to take the basic LCD  
16 displays and ruggedize them so they would work in  
17 fighter jets, which was a very wide temperature range  
18 and humidity range. We were very proud of our efforts  
19 there. We made the first color LCD with a million  
04:50PM 20 pixels. Doesn't sound like much today, but then it was  
21 quite an achievement.

22 Q. What did you do after GE?

23 A. So after GE, they decided to sell that business to a  
24 French company. Those flat screens are still flying in  
04:50PM 25 airplanes, by the way. If you look in a cockpit, you'll

1 see a lot of flat screens.

2           There was a small computer company in  
3 California called Apple that was looking for somebody  
4 that could help them integrate new LCD technology into  
04:50PM 5 their products, specifically the first notebooks. So  
6 this was in the early '90s.

7 Q. What were your duties at Apple with respect to those  
8 notebook displays?

9 A. So myself and my group were responsible to interact  
04:51PM 10 with suppliers -- they were actually mostly in Asia --  
11 to specify and modify the LCDs that would work with  
12 Apple's products. That involved a lot of testing and  
13 modifications of light sources and optics. At the end  
14 of that, though, we had a product that would work well  
04:51PM 15 in an Apple computer, and then we introduced the first  
16 notebook computers in the early '90s.

17 Q. What did you do after Apple?

18 A. Well, after Apple, it's a long story why I left. I  
19 won't go into it, but at the time it wasn't a very  
04:51PM 20 healthy company, believe it or not. I joined a company,  
21 Motorola, and Motorola's most known for their cell  
22 phones. They were also looking at advancing display  
23 technology for cell phones and other products. So cell  
24 phones in those days were usually maybe a two-inch  
04:51PM 25 screen, and they wanted to expand that; they wanted to

1 have more brightness, so we were investigating organic  
2 LED materials for cell phones and other flat panel  
3 technologies that could be used even for television.

4 Q. Did you work for anyone else after Motorola?

04:52PM

5 A. So after Motorola, I've now spent about 20 or 25  
6 years in big company developments, and I wanted to work  
7 in sort of a smaller team environment, so I joined a  
8 company called Alien Technology. Alien was developing  
9 micropackaging that could take LEDs and put them onto a  
10 surface and make a large screen display. Seemed very  
11 fascinating to me, and there's still some of that  
12 technology development still going on.

04:52PM

13 I worked with a company called Display  
14 Engineering. Display Engineering was looking at trying  
15 to make outdoor signage but using LCD technology. So  
16 the trick there was to take an existing television set  
17 and beef up the brightness. It changes all the LEDs,  
18 put in new thermal heat sinks to manage the heat, and  
19 then package it in such a way that it could work  
20 outdoors. So we developed those kinds of products at  
21 Display Engineering.

04:52PM

04:53PM

22 I'd also like to point out that some other  
23 companies I worked, Innova Dynamics in particular, we  
24 were developing new materials for touch sensors, but my  
25 responsibility was to test. So we had to test all the

04:53PM

1 new materials and make sure they meet customer specs. I  
2 had a lot of chance over my career to work with  
3 companies in Asia who were suppliers and customers

4 Q. Tell us about your consulting work.

04:53PM

5 A. Yes. As I mentioned earlier, my consulting has been  
6 in a couple areas. I have enough experience to help a  
7 company who maybe wants to get involved with a new  
8 product, they need a new color screen or needed some  
9 help understanding what the properties should be.

04:53PM

10 But more recently, especially since I moved  
11 out of Silicon Valley, most of my effort has been to  
12 support patent litigation, writing expert reports, doing  
13 depositions, and that's the reason why I'm here today.

04:54PM

14 MR. LAMBRIANAKOS: Your Honor, at this time,  
15 Plaintiff offers Mr. Thomas Credelle as an expert in LED  
16 display technology.

17 THE COURT: Is there objection?

18 MR. MCCARTHY: No objection, your Honor.

04:54PM

19 THE COURT: Then without objection, the Court  
20 will recognize this witness as an expert in that  
21 designated field. Please continue.

22 Q. Mr. Credelle, what materials have you considered in  
23 preparation for your testimony on infringement?

04:54PM

24 A. Well, it's a pretty long list. It starts with the  
25 patents. Obviously the patents are an important

1 element. In this case, there are three patents that  
2 I'll be talking about. They are called the '782, the  
3 '294 and the '904.

4 Part of the materials that I read besides  
04:54PM 5 those patents is what's called the prosecution history.

6 Q. Mr. Credelle, what is the prosecution history?

7 A. So you may remember, in your opening instructions,  
8 Judge Gilstrap mentioned a prosecution history. It's  
9 kind of a record of the discussions between an inventor  
04:55PM 10 and the patent office.

11 When you file for an invention, you have to  
12 tell the patent office about some prior art that might  
13 exist; and during this discourse, the patent examiner  
14 may cite some prior art and you have a chance to respond  
04:55PM 15 to them. This process can go back and forth for a long  
16 time.

17 Finally, if the patent issues, the claims may  
18 be modified, but in the end, those claims are now  
19 ascertained as being good claims and the patent is  
04:55PM 20 issued.

21 Q. Were you able to inspect physical samples of Absen's  
22 products?

23 A. Yes. Part of my process and an important part of my  
24 process was actually to look at the hardware. When  
04:55PM 25 you're looking for infringement, you have to see how

1 does the claim match the device. So I was provided by  
2 Absen various models of LED signs shipped to me so I  
3 could evaluate them, take them apart, take pictures,  
4 look at all the components and materials. That was a  
5 big part of my effort.

04:56PM

6 Q. Do you see any of the products in the courtroom that  
7 you inspected in this case?

8 A. Yes. We'll look at these more in detail later, but  
9 on the rack over there are a couple samples of signs,  
10 and I'm going to use those to help you kind of  
11 understand maybe how they really work and what's  
12 involved in the parts that are in them, which maybe it  
13 will help give you some context to my analysis that I'll  
14 talk about a little bit later.

04:56PM

15 Q. Did you confirm that the products here in the  
16 courtroom are the same products that you inspected?

17 A. Actually, almost. The one taller unit on the left  
18 is the same model as the type that I inspected, but this  
19 one happens to have some damage on it. Fortunately, the  
20 one that I was inspecting personally was a more complete  
21 unit that didn't have as much damage, but it's basically  
22 the same idea.

04:56PM

23 Q. Did you perform any testing on the Absen products  
24 that were provided to you?

25 A. Yes. As I'll discuss later, one of the tests I was

04:57PM



1 able to do on one of the representative products from  
2 Absen is to try to understand what the water-resistance  
3 capability of the panel would be.

04:57PM 4 As you heard already from the witnesses by  
5 video, these panels are rated different IP ratings.  
6 I'll explain what that means in more detail, but a  
7 certain water resistance for the enclosure.

04:57PM 8 Sometimes they don't do the test at all levels,  
9 as you heard, so one of my jobs is to really understand  
10 can these devices have even a better capability than  
11 they advertise in their brochure. So I did that water  
12 testing on the so-called AT model.

13 Q. What type of written materials did you review about  
14 the Absen products?

04:57PM 15 A. So Absen provided quite a bit of material: As I  
16 said, specifications, manuals, marketing materials. I  
17 was able to look at what I'll call public information  
18 from the Web, different spec sheets and photographs of  
19 their products. So a whole raft of materials.

04:58PM 20 Q. Did you review any testimony in the case?

21 A. I did. There were depositions and a lot of  
22 testimony previously from different witnesses. I read  
23 those, read those transcripts to understand what they  
24 have said about these products and some features.

04:58PM 25 Q. Did you review the opinions of Absen's experts prior

1 to trial?

2 A. Yes. I've reviewed, obviously read their reports,  
3 listened to their depositions, and helped me understand  
4 and form my opinion about what I'll discuss today.

04:58PM

5 Q. Did you consider anything else in connection with  
6 your opinions?

7 A. Well, in connection with my opinions, one of the  
8 important -- what's very important is to be able to  
9 match the claims of a patent to an actual product.

04:59PM

10 Sometimes the Court will construe certain words that may  
11 have sort of a fuzzy meaning or might be not quite sure  
12 do they mean this or this.

13 As Judge Gilstrap mentioned, it's called  
14 court construction, and where there has been a

04:59PM

15 construction, I will use those definitions, if you will,  
16 in my analysis.

17 Q. What tests did you apply in your infringement  
18 analysis to determine the infringement by each product?

19 A. So the process I use, and I think most people who  
20 are in my position do use, is to -- infringement is  
21 really a two-step analysis.

04:59PM

22 Q. What is the first step of the infringement analysis?

23 A. Well, as I mentioned, the first step is to look at  
24 how the claims -- what are the meaning of the claims.

05:00PM

25 So if the Court has construed a meaning, then I use

1 those court constructions. If the Court hasn't, if  
2 there is so-called plain and ordinary meaning of a word  
3 or of a phrase, I will use that in my analysis.

05:00PM

4 Q. And what is the second step of the infringement  
5 analysis?

05:00PM

6 A. The second step would then be to go through the  
7 claims that are asserted against Absen in this case step  
8 by step and look for each element of the claim in the  
9 product. And I'll show you my process as we go through  
10 this afternoon.

11 Q. What did you mean by "a person of ordinary skill in  
12 the art"?

05:00PM

13 A. A term used often, at least in my business and in  
14 analyzing patents, there's a term called "person of  
15 ordinary skill in the art." So what does that mean? It  
16 means it's a person who has the skills in a particular  
17 field -- in this case, let's say LED displays -- a  
18 person who has some basic background related to that  
19 field.

05:01PM

20 So you consider factors such as education  
21 and job experience in trying to understand what a person  
22 of skill in the art would have, and it has to apply when  
23 the invention takes place, so in this case around 2014.

05:01PM

24 You say what would an engineer know in 2014 in  
25 this case, not what he knows today, but what would he

1 know in 2014 to understand whether an invention was  
2 novel or not, for example.

3 Q. Do you have an opinion regarding who a person of  
4 ordinary skill in the art would be in this case?

05:01PM

5 A. I do. A person of ordinary skill in the art,  
6 sometimes it's referred to as POSITA, would have a  
7 bachelor's degree in electrical engineering or  
8 mechanical engineering or some equivalent field;  
9 probably two to three years of experience in designing

05:02PM

10 outdoor LED-based displays or fixtures; or some advanced  
11 education or experience that could trade off for not  
12 having three years but have enough knowledge to be able  
13 to be -- to have the knowledge to make an assessment  
14 about a patent or a claim.

05:02PM

15 Q. Have you reviewed Absen's expert's opinion regarding  
16 the level of skill of a person of ordinary skill in the  
17 art?

18 A. Yes, I have. I noted in Mr. Ward's report that he  
19 didn't have an opinion about what a person of skill in  
20 the art, what education he would have, so I assume he  
21 doesn't dispute my definition.

05:02PM

22 Mr. Flasck, one of the other experts, has also  
23 had an opinion, and his and mine are very similar in  
24 this case.

05:02PM

25 Q. Would your opinions change if you were to adopt

1 Mr. Flasck's level of ordinary skill?

2 A. No, they would not.

3 Q. What would you say is the second step of the  
4 infringement analysis?

05:02PM

5 A. So the second step is the comparison of the  
6 construed claim, element by element, to the accused  
7 product.

8 Q. How do you compare the construed claims of a patent  
9 to the accused devices or processes?

05:03PM

10 A. So there's two types of claims, what's called an  
11 apparatus claim, and two of the patents we'll discuss  
12 this afternoon are in that category. We look at every  
13 element described in the claim and compare that to the  
14 product.

05:03PM

15 Q. What about for a method claim?

16 A. So a method claim is kind of like a recipe on how to  
17 do something, a process. So in that case, I would  
18 compare every step of the claim -- I would say every  
19 step of the claim must be practiced or performed by the  
20 infringing product. So...

05:03PM

21 Q. Does every element of the claims have to be in the  
22 accused product or process to have infringement?

23 A. Yes. One of the rules is that, if there are ten  
24 parts of a patent claim and you only see nine of them in  
25 the product, then it doesn't infringe. All elements

05:04PM

1 have to be present. So I have to look for every element  
2 in the product as I go through my analysis.

3 Q. What types of claims are at issue in this case?

4 A. As I mentioned, there are -- oh, I'm sorry. What  
05:04PM 5 types of -- I'm sorry.

6 Q. What types of claims are at issue in this case?

7 A. Claims, yes.

8 So there are two types of claims. Again, I  
9 think Judge Gilstrap explained this on Thursday.

05:04PM 10 There's an independent claim which stands by itself.

11 You look at them step by step by step. If all the  
12 elements are in that claim, then it infringes.

13 There's also what's called a dependent claim,  
14 and that adds an additional element to that maybe first  
05:04PM 15 independent claim. We have an example of that in this  
16 case for the '782 Patent. So it's called dependent  
17 because the new feature has to be in the product but  
18 also all the features of the first patent claim.

19 Q. Mr. Credelle, would you please explain to the jury  
05:05PM 20 the parts of a U.S. patent?

21 A. Sure. This is a picture of the front page of a  
22 patent. This is in your jury notebooks, I believe,  
23 PTX-002. This is the '782 Patent, which actually has a  
24 full number of 9,916,782; we refer to it as the '782  
05:05PM 25 Patent. This particular patent has a title of: Modular

1 Display Panel. It was issued March 13th, 2018. The  
2 inventor is Mr. Hall, who you heard this morning. It  
3 also shows the filing date. That's some of the  
4 information on the front page that you can see.

05:06PM

5 Q. What is the abstract of a patent?

6 A. So also on the front page, you find an abstract. It  
7 is exactly what you might think that is. It's a  
8 one-paragraph summary of the key elements of the  
9 invention. It isn't the claims, really, but it tells

05:06PM

10 you what this is about. So this would talk about it has  
11 to do with modular displays and some elements of what  
12 was new about this particular invention.

13 Q. What is the "References Cited" section on the front  
14 page?

05:06PM

15 A. So on the front page, and sometimes it continues on  
16 multiple pages, is a list of all the prior art  
17 references that the examiner, the patent examiner, can  
18 consider when he is trying to decide if this is a novel  
19 idea or not. So in this case, it starts on Page 1, and  
20 you can see a couple U.S. patents.

05:06PM

21 And in this case, there's a very long list of  
22 additional references that were available to the  
23 examiner, and this is helpful for the examiner because  
24 he may not be an expert in LED signs. So he now has a  
25 head start on looking at prior art to consider to

05:06PM

1 whether this idea is novel and deserves a patent.

2 Q. What is the next section of the patent?

3 A. The next section of the U.S. patents is typically  
4 the figures. There can be anywhere between one and, I

05:07PM

5 think -- maybe there's no limit. This particular patent  
6 has 64 sheets. I think it's 40 figures that are used.

7 The figures are just examples or  
8 illustrations of what the concept is meant to describe.

9 They are not -- you can't build the product from these

05:07PM

10 figures, but they should be illustrative. Sometimes  
11 there's more than one embodiment. There may be  
12 different ways to make a product, so they will have all  
13 of these in figures.

14 Q. What's next in the patent?

05:07PM

15 A. So the next part is called the specification. It  
16 usually starts in the background. So the inventor will  
17 write a background of maybe what's happened in the  
18 industry up to this point, and they want to set the  
19 stage for why their invention is new.

05:08PM

20 So there's a background section and maybe  
21 some figures to illustrate some older technology, and we  
22 try to compare that with the new invention.

23 Then there's a summary, so there's a quick  
24 summary. Again, it's a little more detailed than the

05:08PM

25 abstract. All the figures, however many there are,



1 there are some descriptions, one or two sentences about  
2 each figure.

3 And then there's a -- the text portion is a  
4 detailed description of the embodiments. It can be  
05:08PM 5 1 page or 50 pages, but it tries to describe in detail  
6 what is the patent, and then examples of what -- how you  
7 might make the product.

8 Q. What's the final section of the patent?

9 A. Well, the final section, and it really is the most  
05:08PM 10 important section; after all of the figures and  
11 summaries and specification, certain claims are allowed  
12 by the patent office, and these claims are what  
13 determine infringement or not. It may be different than  
14 what's in the specification or it may be different than  
05:09PM 15 what's in the figure, but it is the claims that matter.

16 So this is -- on the screen now is Claim 1 and  
17 Claim 9. Just as an example, 1 is an independent claim  
18 and 9 is a dependent claim. This particular patent -- I  
19 think they are on the last couple pages of your patent  
05:09PM 20 in your books -- has maybe, I think, 15 or 20 claims.  
21 So you may have patents with only one claim or could be  
22 a hundred.

23 Q. Would you explain again the distinction between an  
24 independent and a dependent claim.

05:09PM 25 A. Yes. This is just for clarification, because I'm

1 going to be talking about Claim 9, the infringement of  
2 the '782. So that's a dependent claim, and standing by  
3 itself, it doesn't mean much. It just says, "A  
4 thermally conductive material comprising plastic," but  
5 the important part is the panel of Claim 1.

05:10PM

6 So Claim 1 is independent. It has a bunch  
7 of elements, and we're going to go through these, and  
8 then adds the feature of Claim 1. So independent claim  
9 and dependent claim.

05:10PM

10 Q. What is the next portion of your testimony, sir?

11 A. So now we're going to get into the patent analysis,  
12 but I'm going to start with a family of patents. We'll  
13 it a family. There's two patents that are similar in  
14 nature, the '782 and the '294. I'm going to start with  
15 a little technology background to sort of set the stage.

05:10PM

16 I'm going to talk about the invention of the '782  
17 Patents, and then I will do my infringement analysis.

18 Q. What can you tell the jury about the evolution of  
19 electronic signs?

05:10PM

20 A. Well, it's pretty fascinating, but the first  
21 electronic signs for doing video -- I'm not talking  
22 about gas station signs, but ones that can do  
23 pictures -- was in the early '80s. I think Sony was the  
24 one who did it first. Called it the Jumbotron. You  
25 actually used little vacuum tubes for every colored dot.

05:11PM

1           So it was a very coarse resolution, but they  
2 had these little tubes, and each tube was a red dot or a  
3 green dot or a blue dot; and with the right electronics  
4 and miles of wires, you could make a picture. Very  
05:11PM 5 impressive.

6           This is a picture of a Jumbotron in  
7 Times Square that was back around the '80s. Very  
8 expensive, very high maintenance.

9           Fortunately, as time went on, LED technology  
05:11PM 10 became more perfected.

11 Q. When did the first generation of LED displays become  
12 available?

13 A. So around the '90s, due to advancements in LEDs,  
14 particularly the blue color, there was a set of red,  
05:12PM 15 green, and blue LEDs that you could put into an  
16 electronic sign, a lot easier to use than -- we had  
17 these very big tubes, and now we have these little,  
18 small LEDs that could be mounted on a printer and then  
19 powered with a power supply and put into a frame.

05:12PM 20           And so that became kind of the -- the  
21 expansion of the market started happening when LEDs  
22 became practical; and their efficiency got better, so  
23 the power, they weren't so hot. But still, they were  
24 pretty crude. The signs were pretty crude. They still  
05:12PM 25 had big boxes and cabinets, but now we started seeing

1 more signs in places like Times Square and casinos that  
2 had LEDs.

3 Q. So what came next in the evolution?

4 A. So, you know, going forward a few years in the early  
05:12PM 5 2000s time frame, LEDs became even more efficient,  
6 brighter, cheaper. So the market started to expand.  
7 And I think once advertisers realized that they could  
8 create billboard signs and outdoor advertisements that  
9 they could change the content, it really exploded.

05:13PM 10 So the market has grown from these huge,  
11 expensive single things to now you see them everywhere  
12 when you drive down the highway or go to a sporting  
13 event or a rock concert, you'll see LEDs.

14 Q. You mentioned cabinet. Is this what you were  
05:13PM 15 referring to?

16 A. Yes. So we've heard a lot about cabinets and we'll  
17 hear more about cabinets, but most of these first- and  
18 second-generation products were built-in cabinets.  
19 After all, these are electronic devices, and mostly you  
05:13PM 20 don't want to put them out in the rain, so they have to  
21 be protected if they are going to last because  
22 electronic signs are meant to be up there on the  
23 billboard for years.

24 So the solution in the industry was to take all  
05:14PM 25 these components, these LEDs and circuits and power

1 supplies and put them into a box. What's shown here is  
2 a typical cabinet. It's about maybe three feet by three  
3 feet, and some are bigger, some are smaller. And if you  
4 open the door in the back, you'll see a lot of green  
05:14PM 5 boards. Those are printed circuit boards. Each one of  
6 those has a bunch of LEDs mounted on the other side, the  
7 side that you look at, and a bunch of wires and some  
8 power supplies and a fan or two, because once you close  
9 the door on this, it's like an oven.

05:14PM 10 You will have a lot of hot components inside.  
11 It gets hot. And electronics don't like to work when  
12 they are so hot. It can lead to failures. So cooling  
13 became a big issue, and as Mr. Hall mentioned this  
14 morning, maintenance became a big issue. Climbing up on  
05:14PM 15 those billboards and trying to get at these components  
16 was a real challenge.

17 Q. What's the next area of your testimony today?

18 A. So now I would like to summarize, in my words, the  
19 '782 Patent family. You heard the inventor this  
05:15PM 20 morning, but I'll tell you what I think are the main  
21 components.

22 Q. What is the invention, in your words, of the '782  
23 Patent family?

24 A. Well, first and foremost, it's a modular display  
05:15PM 25 panel.

1 Q. How did the Court construe the term "modular display  
2 panel"?

3 A. So the Court has construed "modular display panel"  
4 to mean an interchangeable display panel for a  
05:15PM 5 multichannel modular display configured for use without  
6 a cabinet, like I just showed you.

7 Q. What does it mean for a display panel to be modular  
8 in the patents?

9 A. So to be modular, I want to focus on and kind of  
05:15PM 10 break down this sentence. Interchangeable is a key  
11 part. As Mr. Hall mentioned, you want to be able to  
12 take one unit out, put a new one in; you want to be able  
13 to rapidly configure. So interchangeable parts is a key  
14 part of this modular display panel.

05:16PM 15 It has to be attachable to other modular  
16 display panels so we can make a giant sign. So it needs  
17 to have some way to make a multipanel, so "multi"  
18 meaning many.

19 In the context of these patents, it's  
05:16PM 20 configured for use without a cabinet. So we'll talk  
21 about that in a second.

22 Q. What is a cabinet, as that term is used in the  
23 '782 Patent family?

24 A. So the term "cabinet" has also been construed to  
05:16PM 25 mean an enclosure separate from the LED panels to

1 protect the LED panels from the environment, including  
2 water.

3 Q. What are the components that make up a modular  
4 display panel in the patent family?

05:16PM

5 A. So there's a list. There's a list of components,  
6 and we'll be talking about these as I go through the  
7 claim elements. We've heard about some of these  
8 already, and I have a sample I'll show you again. But  
9 there's a plastic housing or a casing; that's part of  
10 these patented ideas.

05:17PM

11 There's one or more LED boards with drivers so  
12 you could put a picture on the LEDs. They are mounted  
13 in the housing.

05:17PM

14 There is a receiver circuit which takes data  
15 from a source like a computer or a video source; a power  
16 supply to drive the LED. Since these are outdoor  
17 products, there are sealants and various louvers to  
18 allow it to work outdoors.

05:17PM

19 Because there are no fans in many of  
20 these devices, you want to get the heat out of that box.  
21 You have to have special thermal materials to get the  
22 heat out of the box.

23 And you want to make it waterproof and not the  
24 bulky cabinets of the previous generation.

05:17PM

25 That's a picture on the screen of one of these

1 units.

2 Q. Mr. Credelle, do you have a device there that you  
3 could use to show the jury?

4 A. I do.

05:18PM 5 Q. That's PTX-806.

6 A. So this is a modular display panel similar to the  
7 ones that Mr. Hall showed earlier. The LED is where the  
8 picture is, and the back side where all the magic  
9 happens. This is where all the electronics and power  
10 and everything gets organized. So this is a standing  
11 picture. This is a plastic housing. It's very  
12 lightweight compared to the old style systems. And  
13 all --

14 Q. Mr. Credelle --

05:18PM 15 A. Oh, sorry.

16 Q. Is there any requirement that the housing be any  
17 particular size in the '782 Patent family?

18 A. No, there's no size -- no size requirement.

19 Q. So looking at the demonstrative that you have in  
05:19PM 20 your hands, could you point out specifically the housing  
21 and let the jury know what the material is of the  
22 housing?

23 A. Yes. So this is the -- this section here is the  
24 housing. It's holding the printed circuit board. You  
05:19PM 25 can see it on the back side. There's also some



1 attachment points on this housing, but that's a typical  
2 housing for this particular unit, which is, I think,  
3 one feet by two feet, just as a size reference.

4 Q. What can we see from the front of the panel?

05:19PM

5 A. I'll try and talk into the microphone as I hold this  
6 up. On the front you can see an array of little white  
7 squares. Those are the LED packages. And inside each  
8 one of those little squares are three LEDs mounted into  
9 a little chip. So you'll see this whole array of LEDs,  
10 and --

05:19PM

11 Q. And what else can you see from the front of the  
12 panel besides the LEDs?

13 A. So also, if you were up close enough to this, you  
14 can't really see it from there, but there's a plastic  
15 mesh that goes on top of the LEDs. That's to protect  
16 the LEDs partly from damage and handling but also the  
17 little louvers stick out like a visor; and on a really  
18 sunny day when the sun is coming down, it actually helps  
19 the visibility of the picture. That's on top of the  
20 LEDs.

05:20PM

21 And also, in the case of outdoor LEDs, there is  
22 a silicone sealant around the LEDs to help keep water  
23 out of that section.

24 Q. And what does the waterproofing that you mentioned  
25 sit on top of?

05:20PM

1 A. So great question. So these LEDs have to be mounted  
2 to something and that something is a printed circuit  
3 board. I think maybe you saw in the deposition -- the  
4 video depositions mentioning the printed circuit boards.

05:20PM

5 So a printed circuit board is an electronic  
6 component that has circuitry attached to it. If you  
7 opened up your laptop computer, there would be circuit  
8 boards inside holding all the microprocessors and memory  
9 chips.

05:21PM

10 In this case the printed circuit board has the  
11 LEDs on the front side, and if we could open this up on  
12 the back side, you'd see the microchips.

13 Q. What are some of the internal components of the  
14 modular display panel?

05:21PM

15 A. So inside this box -- I should take the back off --  
16 there are additional components. I'll start with the --  
17 what's called, in the industry, a receiver card. It's  
18 basically taking data from a computer or a video camera  
19 or whatever the source is. So inside this box is a  
20 small board here at the bottom.

05:22PM

21 This has cabling that goes out to the computer,  
22 and this -- the purpose of this board is called, as I  
23 said, a receiver circuit. It receives data. It has to  
24 do some organization of the data, so it's -- it can send  
25 out a signal to these LEDs so the brightness will be

05:22PM

1 adjusted to the right level. So that's the purpose of  
2 this small board.

3 This small board is connected with a cable to  
4 the printed circuit board, which you can kind of maybe  
05:22PM 5 see through this hole here. That's the back of the  
6 printed circuit board. That has the rest of the  
7 electronics on it. So we have incoming data, some  
8 processing, then it goes out through a wire into the  
9 LEDs, and there are driver circuits that turn on all the  
05:22PM 10 brightnesses.

11 Q. What is an LED driver circuit?

12 A. So LEDs are two -- they are little devices with just  
13 two terminals. You put a plus and a minus on the LED.  
14 It will be like a flashlight, and you light it up.

05:23PM 15 In the case of a sign that has to make a  
16 picture, you have thousands of LEDs, and you can't have  
17 thousands and thousands of wires. So these driver  
18 circuits are put in the back, so each small driver  
19 circuit can drive 16 or 32 LEDs with the right  
05:23PM 20 brightness signal. So they have to be mounted close to  
21 the LEDs, but it helps to simplify the electronics by  
22 having these driver circuits.

23 Q. What other components make up the modular display  
24 panel?

05:23PM 25 A. Well, the last and, of course, very important part

1 is the power supply. So the power supply is this metal  
2 box. This is a fairly small modular display panel, so  
3 it's kind of a small power supply. Its purpose is to  
4 take incoming voltage like 110 volts, like you have in  
05:23PM 5 your house, and convert it to a low-voltage DC like 5  
6 volts, kind of like your phone charger adapters do, and  
7 send that current power to the LED circuits. So that's  
8 providing the energy to light up the LEDs.

9 Q. Why does the power supply convert AC to DC power?

05:24PM 10 A. So it would be nice if this didn't have to be the  
11 way it is, but the LEDs are DC -- little DC devices that  
12 need DC voltage of about 3 or 4 volts, so you have to  
13 convert the 110 or the 220 volt into something that is  
14 compatible with the LEDs.

05:24PM 15 Q. How does the modular display panel stay cool?

16 A. So as I mentioned a minute ago and I think Mr. Hall  
17 mentioned as well, the older style cabinets that had  
18 doors on them were like little ovens, and so you needed  
19 fans or air-conditioners. The design of this modular  
05:25PM 20 display panel eliminates that cooling and instead puts  
21 thermally conductive materials either around the power  
22 supply or the back wall.

23 The whole idea is to get the heat to the  
24 outside world. Since it's outside of this panel, it's  
05:25PM 25 in the air; it's exposed to the environment. So if the

1 inside is 150 degrees, that heat you put out is only  
2 maybe 80 degrees; in the winter, even colder. So if you  
3 keep the heat out of the box, the box will last a long  
4 time.

05:25PM

5 And fans break down. It's one of the biggest  
6 problems with signs. Anything that's mechanical, like,  
7 rotating, it's going to break down. So if you can  
8 eliminate those, it's a much better product.

05:25PM

9 Q. Thank you, Mr. Credelle. You can go ahead and put  
10 that down.

11 Is the patented modular display panel of the  
12 '782 Patent family waterproof?

05:26PM

13 A. Yes. That's one of the main -- one of the main  
14 features is waterproof, and this is another case  
15 where -- "waterproof" can mean different things to  
16 different people, so the Court has construed  
17 "waterproof" in the context of these patents to mean an  
18 ingress protection, or IP rating of 65, IP65 or higher.

19 Q. What does IP65 mean?

05:26PM

20 A. So this is a standard setup by the International  
21 Electrotechnical Commission, IEC; it's based in  
22 Switzerland. A setup of standard testing for  
23 enclosures, and this could be an enclosure, anything  
24 from an LED sign to a cell phone.

05:26PM

25 They set standards for various environmental

1 tests. Dust and water are the two numerals in this IP  
2 rating.

3 The first relates to dust and particulates.  
4 That's the 6 or 5. And then the second digit is water,  
05:27PM 5 and we're going to focus on the water rating when it  
6 comes to waterproof discussion.

7 Q. How is the water protection rating for a product  
8 determined?

9 A. The way you determine whether a product meets -- has  
05:27PM 10 a certain rating is you have to do a test. The IEC has  
11 set up a scale for water from zero to 8. Zero means any  
12 drop of water will probably harm the product. A 4 means  
13 it will work with splashing water from different  
14 directions. A 5 means water jets can be sprayed on the  
05:27PM 15 panel. 6 is heavier water jets. A 7 means you can  
16 temporarily drop it into the water and it will survive.  
17 And thank goodness cell phones these days are rated  
18 IP67, which means you can drop it in the sink and have  
19 it survive, no rice bowls.

05:28PM 20 Q. If a product has passed a rating such as IP54, could  
21 it also pass a higher rating such as IP65?

22 A. Yes. Customers or manufacturers will test their  
23 products at a certain level because they may think  
24 that's all the customers care about. So maybe they say  
05:28PM 25 customer just needs a rating of IP54; we'll do that

1 test; it's good, but it doesn't mean it won't pass IP65  
2 or 66 or 67. You have to test to determine if it has  
3 the capability of achieving a certain rating.

05:28PM 4 The Court's construction of "waterproof" means  
5 it can achieve an IP65 test or higher. That doesn't  
6 mean it has to have a certification; just means it's  
7 good enough to do that level.

8 Q. How do you characterize the benefits of the modular  
9 display panel of the '782 Patent family?

05:29PM 10 A. Well, first and foremost, I do appreciate this  
11 because that panel wasn't very heavy. But when you're  
12 building a sign with hundreds or 500 or 1,000 signs,  
13 weight is important. So these are lightweight with no  
14 bulky cabinets. Plastic housings reduces the weight.

05:29PM 15 They are waterproof and they don't need the bulky  
16 cabinets of the first and second generation.

17 They have more reliable cooling because you've  
18 eliminated the fans and the moving parts by properly  
19 designing the product. And because it's modular, it's  
05:29PM 20 easy to maintain and make changes, and occasionally they  
21 break and you want to be able to fix it.

22 Q. Mr. Credelle, what's the next phase of your  
23 analysis?

05:29PM 24 A. So next I'd like to get into what I call the  
25 infringement analysis, comparing the Absen products to

1 the claim language.

2 Q. Which claims of the '782 Patent family do you  
3 believe are infringed by the Absen products?

05:30PM

4 A. So in this family there are two patents that I'll  
5 discuss this afternoon. First is Claim 9 of the '782  
6 Patent. The second is Claim 22 of the '294 Patent.

7 Q. Which Absen products did you analyze for  
8 infringement of these patents?

05:30PM

9 A. I analyzed many Absen products. I determined that  
10 this family of products is in the accused list: The AT  
11 series, the X series, XD series, PL series, and Xv  
12 series. These are -- on your screen are images from  
13 brochures that tell you something about each product.

14 Q. And what did you do to analyze these products?

05:30PM

15 A. So as I mentioned in my two-step process, I'll use  
16 the Court's claim construction or the ordinary meanings,  
17 I will look at each claim element step by step, and I've  
18 created a checkbox to help in that process.

19 Q. Did you come to any conclusions regarding the

05:31PM

20 similarities of products within a given series of Absen  
21 products?

22 A. Great question. So Absen's provided a sample of  
23 each series to me for analysis. So, for example, with  
24 the XD series, I believe they provided XD10. For the Xv  
05:31PM 25 series, I believe it was a 3. But in each case, I had



1 one sample.

2                   What I determined, by my inspection and by  
3 looking at documentation for the whole family of  
4 products, looking at pictures and spec sheets, that  
05:31PM 5 within a family, they would all behave similarly in the  
6 sense of my analysis. So if one of them has LEDs, they  
7 all have LEDs, just as an example.

8 Q. Did you find any similarities between products  
9 across different families?

05:32PM 10 A. As a matter of fact, I did. And maybe it's not  
11 surprising they all look kind of the same. There are  
12 some subtle differences, but I did find, for the  
13 purposes of my infringement analysis, I can focus on  
14 maybe one type of product and make conclusions about all  
05:32PM 15 of them, all of the families of products.

16 Q. What was Absen's expert's opinion regarding whether  
17 the accused products are the same for infringement  
18 purposes?

19 A. I believe Mr. Ward used the phrase maybe exceedingly  
05:32PM 20 similar in design concepts in that the minor differences  
21 wouldn't really affect infringement across the families.  
22 I believe he said something to that effect.

23 Q. For the '782 Patent, which claim are you going to  
24 show infringement of?

05:32PM 25 A. I'm going to show infringement of Claim 9 which

1 depends on Claim 1.

2 Q. Where can we find Claim 9 in the patent?

3 A. Claim 9 is in the back. I think it's around Column  
4 30 or 31, maybe, of the patent maybe towards the back,  
05:33PM 5 if you look at your copy.

6 Q. Please tell the jury how you are going to conduct  
7 your infringement analysis.

8 A. Yes. As I said, for my benefit and hopefully for  
9 your benefit as well, to break this patent claim into  
05:33PM 10 little small bites. In this case, there's -- we start  
11 with a preamble. It's kind of the starting point. And  
12 then we have several elements, A through H, for Claim 1,  
13 and then we're going to add in Claim 9 in the sense that  
14 Claim 9 is dependent on Claim 1.

05:33PM 15 As I go through my analysis, I'll try to show  
16 you examples of how each element on these claims are in  
17 the products.

18 Q. And before you begin your analysis, does Absen's  
19 expert take the position that none of these claim  
05:33PM 20 elements are in the Absen products?

21 A. No. Quite the opposite. It doesn't dispute that  
22 many of these elements actually are present in the Absen  
23 products. And to help indicate those, I've shaded this  
24 in with some color. So those in green are not disputed  
05:34PM 25 as being in the Absen product by the Absen expert.

1 I'm still going to go through each element  
2 because my job is to show that the product actually has  
3 the element in it, and I'll show you that. But he  
4 doesn't dispute that they are there.

05:34PM 5 Q. What is the first claim element that you analyzed?

6 A. The first is called the preamble. It's a modular  
7 display panel comprising. And remember, "comprising"  
8 means including. It can be more parts, but it has to at  
9 least have these parts on this list.

05:34PM 10 Q. Are there any claim constructions that were provided  
11 by the Court for the terms in the preamble?

12 A. Yes. As I mentioned earlier briefly, the modular  
13 display panel has been construed to be an  
14 interchangeable display panel for a multipanel modular  
05:34PM 15 display configured for use without a cabinet.

16 And a cabinet is an enclosure separate from the  
17 LED panels to protect the LED panels from the  
18 environment, and that environment includes water.

05:35PM 19 Q. Are there any modular display panels in the  
20 courtroom?

21 A. Yes, there are two in the courtroom that we'll be  
22 using as -- I'll be using to help explain these parts.

23 MR. LAMBRIANAKOS: At this time, your Honor,  
24 could we have leave to bring the cart with the two  
05:35PM 25 modular display panels toward the witness?

1 THE COURT: You may.

2 MR. LAMBRIANAKOS: For the record, the panel to  
3 the jury's left, the AT5, that is PTX-795; and the panel  
4 to the jury's right is the N2 Plus, that's PTX-797.

05:36PM

5 THE COURT: And, Mr. Reddy, if you'd like to  
6 reposition yourself where you can see the front of those  
7 panels, you are welcome to do that.

05:36PM

8 Q. Mr. Credelle, would you please step over toward that  
9 cart so that you can demonstrate where the infringing  
10 features are located in the products?

11 A. Yes. I'll try to speak loudly so you can hear me.  
12 If anybody can't --

13 THE COURT: Speak loudly so I can hear you, and  
14 I'm right behind you. So speak up.

05:36PM

15 THE WITNESS: Okay. I'll do my best.

16 THE COURT: If you don't speak loud enough,  
17 I'll let you know.

18 THE WITNESS: Okay.

05:36PM

19 Q. Beginning with the AT5 Pro, what is your opinion  
20 regarding whether the AT5 Pro is a modular display panel  
21 under the Court construction?

05:37PM

22 A. Yes. So under the Court's construction, modular  
23 display panel, it means interchangeable. So is this  
24 interchangeable? This is a module. Some of the panel  
25 has been removed, but it's a modular display panel that

1 actually is made up of 8 individual smaller pieces.

2 There are attachment points along the corners  
3 and edges that can be used to attach them together so  
4 you can make a giant sign.

05:37PM 5 THE COURT: You are going to need to speak up,  
6 Mr. Credelle.

7 THE WITNESS: Okay. A little more water.  
8 Those don't work, do they?

9 THE COURT: I'm checking to see if we have a  
05:37PM 10 handheld mic that will work.

11 THE WITNESS: Okay.

12 Q. What about the portion of the Court's construction  
13 that requires that the display be configured for use  
14 without a cabinet?

05:37PM 15 A. So remember, in the pictures that I showed you those  
16 big cabinets? This doesn't -- oh, perfect. Are we on?  
17 Good.

18 So if you look at this, you see LED panels.  
19 These are the LED panels. This is one that's been taken  
05:38PM 20 off. So there are -- you can't see the back, but it's  
21 just LEDs. They're LED panels. There's no enclosure;  
22 they're exposed to the environment.

23 So the definition of cabinet has to be  
24 something that encloses the LED panels and protects --

05:38PM 25 MR. REDDY: Objection, your Honor. It's not in

1 his report.

2 THE COURT: All right. What's your response,  
3 Mr. Lambrianakos?

05:38PM

4 MR. LAMBRIANAKOS: His explanation of a cabinet  
5 was not specifically addressed in the report. I intend  
6 to ask him about that now. So --

05:38PM

7 THE COURT: If it's not in his report, I'll  
8 sustain the objection. Expert witnesses are confined to  
9 the four corners of their reports that everybody's seen  
10 in advance. Otherwise, we have trial by ambush, and  
11 we're not going to have trial by ambush here. So if  
12 you're telling me it's not in his report, then I'll  
13 sustain the objection, and you need to move on.

05:39PM

14 Q. In your expert report, did you give a specific  
15 explanation for why the AT5 Pro does not use a cabinet?

16 MR. REDDY: Objection, your Honor.

17 A. No.

18 THE COURT: State your objection, Mr. Reddy.

19 MR. REDDY: He's leading.

05:39PM

20 THE COURT: Restate the question.

21 Q. In your expert report, was there an analysis of  
22 whether or not the AT5 Pro meets the definition of a  
23 cabinet?

24 A. There was not.

05:39PM

25 Q. Why not?

1 MR. REDDY: Objection, your Honor. It's not in  
2 his report.

3 THE COURT: So you're asking him why something  
4 wasn't in his report?

05:39PM

5 MR. LAMBRIANAKOS: Why didn't he specifically  
6 address the word "cabinet" in his report when he  
7 determined that the AT5 Pro was a modular display panel.

05:40PM

8 THE COURT: I'm going to restrict the witness  
9 to the confines of his report; otherwise, we are off the  
10 map and we don't know where we are going to go next, and  
11 I'm not going to proceed on that basis. Everybody has  
12 known throughout pretrial that the experts are governed  
13 by and limited to the contents of their reports that  
14 have been produced during the development of the case,  
15 and everybody on both sides has seen in advance.

05:40PM

16 So if you are asking this expert witness why  
17 something is not in his report, unless he's explained in  
18 his report why it's not there or why he didn't address  
19 it, then I'll sustain the objection.

05:40PM

20 Q. Mr. Credelle, please point out the main structural  
21 features of the AT5 product.

22 A. Yes. So I already mentioned there are LED panels or  
23 LED boards. There are -- in this particular unit, there  
24 are eight of them. There is a frame that holds the  
25 parts together. There are two power supply boxes. One

05:41PM

1 of these power supply boxes actually has the receiver  
2 card in it. I will take that off in a moment. And  
3 that's about it.

05:41PM

4 Q. Do these products have LEDs attached to printed  
5 circuit boards?

6 A. Yes, they do. Maybe you can see closer here. There  
7 are those little white dots. This is a higher  
8 resolution panel. So the dots are closer together.

05:41PM

9 They make a better picture. But there's an array of  
10 LEDs, you know, in a rectangular array, in a square  
11 tile.

12 Q. What is the material that's on the same side of  
13 those panels as the LEDs?

05:42PM

14 A. There's two materials over the LEDs. This one has a  
15 plastic part that protects the LEDs, and the plastic  
16 part has been taken off, and there's kind of a shiny  
17 material that you can see. That shiny material is like  
18 a silicone. It's like a sealant you might use in your  
19 bathtub. It is providing a waterproofing. It surrounds  
20 the LEDs. It keeps water out of that surface.

05:42PM

21 Q. Do the panels that you're holding have shells made  
22 of plastic?

23 A. Yes. So if you look at the back side, there is a  
24 plastic shell. I can confirm that it's plastic, and you  
25 can see it's got some -- a connector there, and there

05:42PM



1 are some other screw holes and mounts, but this is a  
2 plastic housing that's holding up the printed circuit  
3 board that I mentioned earlier.

05:42PM

4 Q. Does the LED top that you are holding in your hands,  
5 does it have driver circuits?

6 A. Yes. It does have driver circuits, but  
7 unfortunately it is sealed to be waterproof, and so you  
8 can't see the driver circuits, but I can show you this  
9 indoor panel, which I'll get to in a moment.

05:43PM

10 This back side, you can see the printed circuit  
11 board. It's actually black, not green. But the printed  
12 circuit board with all the little driver chips. So all  
13 of these driver chips are used to drive those LEDs to  
14 the right brightness.

05:43PM

15 Q. What are the boxes that are attached to the back of  
16 the AT5?

17 A. So as I mentioned, these boxes are where the power  
18 supplies are located and also the receiver card. I'll  
19 take one of them off.

05:44PM

20 So inside this box, which is aluminum housing,  
21 there is a power supply. If you remember, I showed you  
22 kind of a metal box power supply on the unit at the  
23 desk. There's a metal boxed power supply inside this  
24 unit where it's against the back wall.

05:44PM

25 There's also a receiver card. That's part of

1 this green board, and underneath is the data card. So  
2 data comes in and gets organized, and then there are --  
3 eventually, the data will get out to these LED panels  
4 through other connectors.

05:44PM

5 So there are two of these in this screen  
6 because it's quite large. These are very high  
7 brightness because they have to work outdoors. So  
8 there's two power supply units. And this is a  
9 waterproof outdoor panel, so you can see some of the  
10 gaskets, and I'll talk more about those later.

05:44PM

11 Q. Does the N2 Plus also have a power supply?

12 A. Yes, it does. I can take off another board here.  
13 So, again, this also has a power supply.

14 Q. And how does the AT5's power supply work?

05:45PM

15 A. The AT5 power supply and the N2 power supply, for  
16 that matter, start with incoming AC voltage going in  
17 through those connectors on the bottom. Usually, if you  
18 look at the back of the sign, you probably see a lot of  
19 wires going to all these individual panels.

05:45PM

20 In fact, if you're not driving in a car and  
21 you see a billboard sign, look at the back side. It  
22 looks a lot different than the front. But you'll see  
23 110-volt or 220-volt wires going to this box, and that's  
24 converted by that power supply into the 5 volts required  
25 for the driver circuits and the LEDs.

05:45PM

1 THE COURT: Let me interrupt at this point.  
2 Mr. Credelle is going to testify for some considerable  
3 length of time, ladies and gentlemen, and we've been in  
4 trial seven hours today. It's almost 6:00.

05:46PM

5 There's not a perfect place to break this  
6 testimony. If I were to let him finish his testimony,  
7 we'd be here until probably 8:00 tonight, and we're not  
8 going to do that.

05:46PM

9 So we're going to recess for the day at this  
10 juncture. If you'd like to return to the witness stand,  
11 Mr. Credelle.

12 THE WITNESS: Yes.

13 THE COURT: Just hand that to the court  
14 security officer.

05:46PM

15 Ladies and gentlemen of the jury, if you will  
16 take your notebooks with you to the jury room and leave  
17 them closed on the table there overnight. If you will  
18 travel safely to your homes and be back tomorrow  
19 morning, assembled and ready to go by or before 8:30 so  
20 that we can hopefully start at 8:30, the Court will  
21 appreciate it.

05:46PM

22 Let me remind you please follow all the  
23 instructions I've given you about your conduct,  
24 including, of course, not to discuss anything about the  
05:46PM 25 case with anyone.

1 And as I say, have a good evening, and you are  
2 excused until tomorrow morning at this time.

3 (Whereupon, jurors exit the courtroom.)

4 THE COURT: You can step down, Mr. Credelle.  
05:47PM 5 You can step down right now.

6 Be seated, please. I'm going to leave this  
7 demonstrative where it is. We can pick up with it in  
8 the morning, Mr. Lambrianakos. We'll make sure the  
9 witness has a fully charged handheld microphone.

05:47PM 10 It might be easier for him to demonstrate with  
11 two hands, but I'm convinced he's not going to be heard  
12 without the use of a handheld microphone, so we'll use  
13 that when we continue tomorrow.

14 All right. Let me ask, are there questions or  
05:47PM 15 issues that need to be raised with the Court before we  
16 recess for the day for either plaintiff or defendant?

17 MR. FABRICANT: Not from the plaintiff, your  
18 Honor.

19 MR. GILLAM: Not from the defendant, your  
05:48PM 20 Honor.

21 THE COURT: All right. I'll remind both sides  
22 to continue your efforts to meet and confer regarding  
23 any issues that arise overnight. Hopefully tomorrow's  
24 menu will be just as bare as the one was this morning,  
05:48PM 25 which the Court appreciates; but if not, I'll be

1 available in chambers by 7:30 to take up any unresolved  
2 disputes that arise overnight despite your concerted  
3 meet-and-confer efforts.

4 If there's not anything further to raise with  
05:48PM 5 the Court this evening, we stand in recess until  
6 tomorrow morning.

7 (Proceedings recessed at 5:48 p.m.)  
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CERTIFICATE OF OFFICIAL REPORTER

I, Dana Hayden, Federal Deputy Realtime Court Reporter, in and for the United States District Court for the Eastern District of Texas, do hereby certify that pursuant to Section 753, Title 28, United States Code that the foregoing is a true and correct transcript of the stenographically reported proceedings held in the above-entitled matter and that the transcript page format is in conformance with the regulations of the Judicial Conference of the United States.

Dated this 7th of June, 2021.



Dana Hayden, CCR, RMR, CRR, CRC  
Federal Official Court Reporter